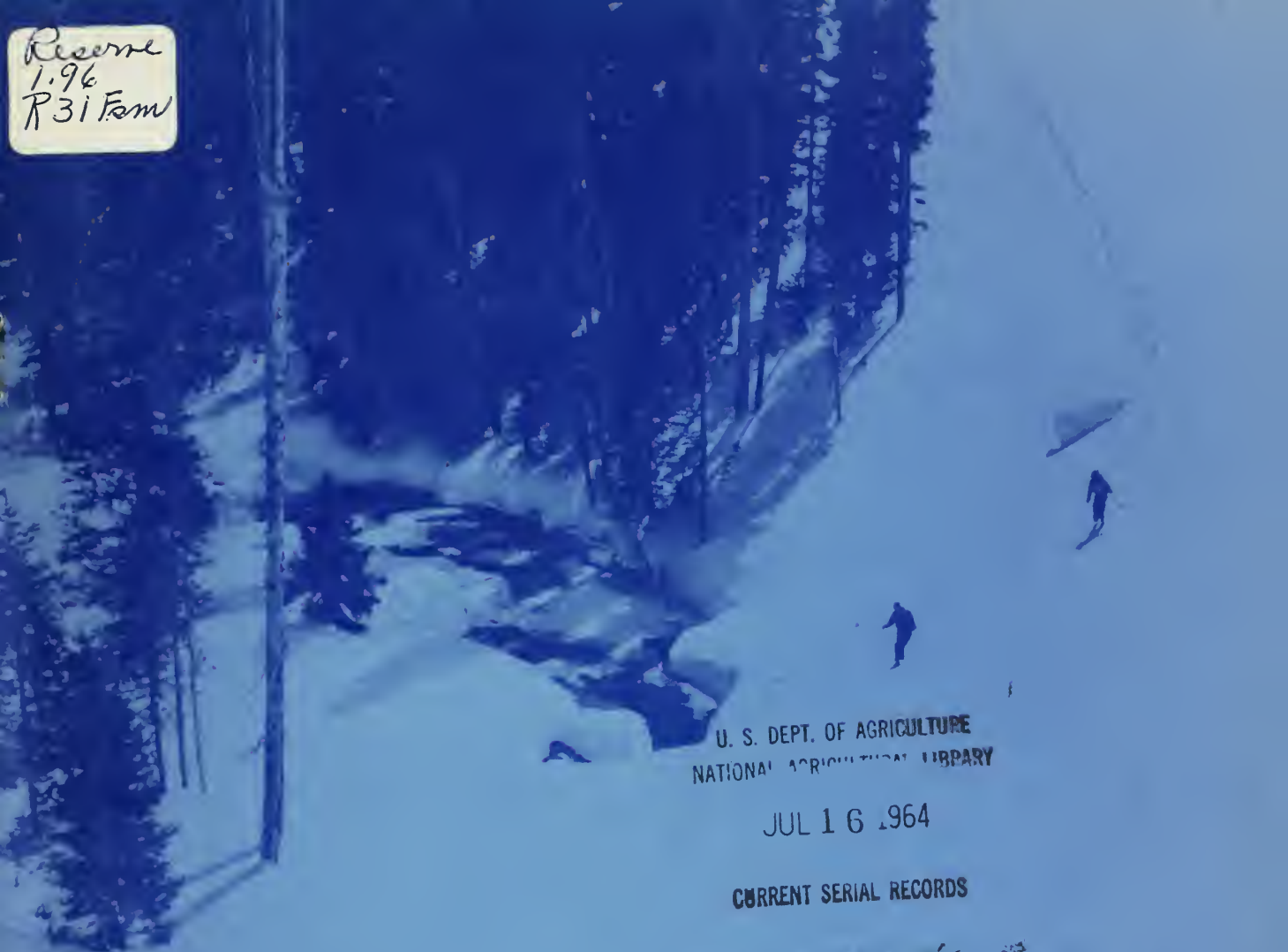


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CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
COLORADO and NEW MEXICO

UNITED STATES DEPARTMENT of AGRICULTURE--SOIL CONSERVATION SERVICE
and
COLORADO STATE UNIVERSITY
STATE ENGINEER of COLORADO
and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, National Park Service and other Federal, State, and private organizations.

AS OF
FEB. 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

| <u>REPORTS</u> | <u>ISSUED</u> | <u>LOCATION</u> | <u>COOPERATING WITH</u> |
|------------------------------|--------------------------|-----------------------------|-----------------------------------|
| RIVER BASINS | | | |
| WESTERN UNITED STATES_____ | MONTHLY (FEB.-MAY)_____ | PORTLAND, OREGON_____ | ALL COOPERATORS |
| STATES | | | |
| ALASKA_____ | MONTHLY (MAR.-MAY)_____ | PALMER, ALASKA_____ | ALASKA S.C.D. |
| ARIZONA_____ | SEMI-MONTHLY_____ | PHOENIX, ARIZONA_____ | SALT R. VALLEY WATER USERS ASSOC. |
| | (JAN.15 - APR.1) | | ARIZ. AGR. EXP. STATION |
| COLORADO AND NEW MEXICO_____ | MONTHLY (FEB.-MAY)_____ | FORT COLLINS, COLORADO_____ | COLO. STATE UNIVERSITY |
| | | | COLO. STATE ENGINEER |
| | | | N. MEX. STATE ENGINEER |
| IDAHO_____ | MONTHLY (JAN.-JUNE)_____ | BOISE, IDAHO_____ | IDAHO STATE RECLAMATION ENGINEER |
| MONTANA_____ | MONTHLY (JAN.-JUNE)_____ | BOZEMAN, MONTANA_____ | MONT. AGR. EXP. STATION |
| NEVADA_____ | MONTHLY (JAN.-MAY)_____ | RENO, NEVADA_____ | NEVADA DEPT. OF CONSERVATION AND |
| | | | NATURAL RESOURCES - |
| | | | DIVISION OF WATER RESOURCES |
| OREGON_____ | MONTHLY (JAN.-JUNE)_____ | PORTLAND, OREGON_____ | OREG. STATE UNIVERSITY |
| | | | OREGON STATE ENGINEER |
| UTAH_____ | MONTHLY (JAN.-JUNE)_____ | SALT LAKE CITY, UTAH_____ | UTAH STATE ENGINEER |
| WASHINGTON_____ | MONTHLY (FEB.-JUNE)_____ | SPOKANE, WASHINGTON_____ | WN. STATE DEPT. OF CONSERVATION |
| WYOMING_____ | MONTHLY (FEB.-JUNE)_____ | CASPER, WYOMING_____ | WYOMING STATE ENGINEER |

PUBLISHED BY OTHER AGENCIES

| <u>REPORTS</u> | <u>ISSUED</u> | <u>AGENCY</u> |
|-----------------------|--------------------------|--|
| BRITISH COLUMBIA_____ | MONTHLY (FEB.-JUNE)_____ | WATER RIGHTS BR., DEPT. OF LANDS, FORESTS AND |
| | | NATURAL RESOURCES, PARLIAMENT BLDG., VICTORIA, |
| | | B.C., CANADA |
| CALIFORNIA_____ | MONTHLY (FEB.-MAY)_____ | CALIF. DEPT. OF WATER RESOURCES, P.O. Box 388, |
| | | SACRAMENTO, CALIF. |

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND WATER SUPPLY FORECASTS
for

COLORADO RIVER, PLATTE RIVER
ARKANSAS RIVER AND RIO GRANDE
DRAINAGE BASINS

Issued

February 1, 1963

Report Prepared By
Jack N. Washichek, Snow Survey Supervisor
and
Don W. McAndrew, Assistant Snow Survey Supervisor
Fort Collins, Colorado

United States Department of Agriculture
Soil Conservation Service
and
Colorado Agricultural Experiment Station
Fort Collins, Colorado
and
State Engineer of Colorado
Denver, Colorado
and
State Engineer of New Mexico
Santa Fe, New Mexico

Issued By

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State Conservationist (N. Mex.)
Soil Conservation Service

J. E. Whitten
State Engineer
State of Colorado

Sherman S. Wheeler, Director
Colorado Agricultural
Experiment Station

S. E. Reynolds
State Engineer
State of New Mexico

General Series Paper No. 780
Colorado Agricultural Experiment Station

WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO

as of
FEBRUARY 1, 1963



* SNOW PACK IS ONLY ONE HALF NORMAL. UNLESS WE HAVE *
* MUCH ABOVE NORMAL SNOW FALL IN THE NEXT FEW MONTHS, *
* ALL AREAS OF COLORADO AND NEW MEXICO, DEPENDENT ON *
* SNOW MELT RUNOFF FOR WATER, WILL HAVE DEFICIENCIES. *
* THE SEVERITY OF THESE SHORTAGES WILL DEPEND UPON *
* FUTURE SNOW FALL. *
*
* SOILS IN THE MOUNTAINS ARE DRY. RESERVOIR STORAGE *
* IS GENERALLY NORMAL OR LESS. *



COLORADO NEEDS LOTS MORE SNOW IN THE HIGH MOUNTAINS. AS A WHOLE, SNOW PACK IN THE STATE IS ABOUT 60% OF NORMAL. WEATHER PATTERNS OF UNSEASONABLY HIGH AND LOW TEMPERATURES, EXTREMELY WARM CHINOOKS, AND HIGH ELEVATION WINTER RAINFALL ARE DRIVING FORECASTERS SLIGHTLY MAD. SOIL MOISTURE IS GENERALLY DEFICIENT THROUGH OUT THE STATE. RESERVOIR CARRYOVER STORAGE WILL NOT HELP MANY AREAS. SOME ASSISTANCE CAN BE EXPECTED IN THE SOUTH PLATTE AREA. ONLY ABOUT HALF OF THE SNOW SEASON HAS PASSED, SO TIME STILL REMAINS TO BUILD UP A GOOD SNOW PACK, HENCE, ADEQUATE WATER.



NEW MEXICO

NEW MEXICO CAN BOAST OF A HIGHER PERCENTAGE OF SNOW PACK THAN COLORADO, BUT THE PICTURE IS STILL NOT OPTIMISTIC. THE RIO GRANDE DRAINAGE HAS ABOUT 82% OF IT'S NORMAL SNOW COVER, WHILE THE SAN JUAN HAS ONLY ABOUT 65%. THIS AMOUNT OF SNOW WILL NOT PRODUCE ADEQUATE WATER SUPPLIES. SOIL MOISTURE IS ONLY SLIGHTLY BELOW NORMAL AND WILL REDUCE RUNOFF. RESERVOIR STORAGE IS 75% OF THE 15 YEAR AVERAGE AND NOT NEARLY SUFFICIENT TO PROVIDE NEEDED WATER THIS SUMMER.

WATER SUPPLY OUTLOOK

THE MAP ON THIS PAGE INDICATES THE MOST PROBABLE WATER SUPPLY AS OF THE DATE OF THIS REPORT. ESTIMATES ASSUME AVERAGE CONDITIONS OF SNOW FALL, PRECIPITATION AND OTHER FACTORS FROM THIS DATE TO THE END OF THE FORECAST PERIOD. AS THE SEASON PROGRESSES ACCURACY OF ESTIMATES IMPROVE. IN ADDITION TO EXPECTED STREAM-FLOW, RESERVOIR STORAGE, SOIL MOISTURE IN IRRIGATED AREAS, AND OTHER FACTORS ARE CONSIDERED IN ESTIMATING WATER SUPPLY. ESTIMATES APPLY TO IRRIGATED AREAS ALONG THE MAIN STREAMS AND MAY NOT INDICATE CONDITIONS ON SMALL TRIBUTARIES.

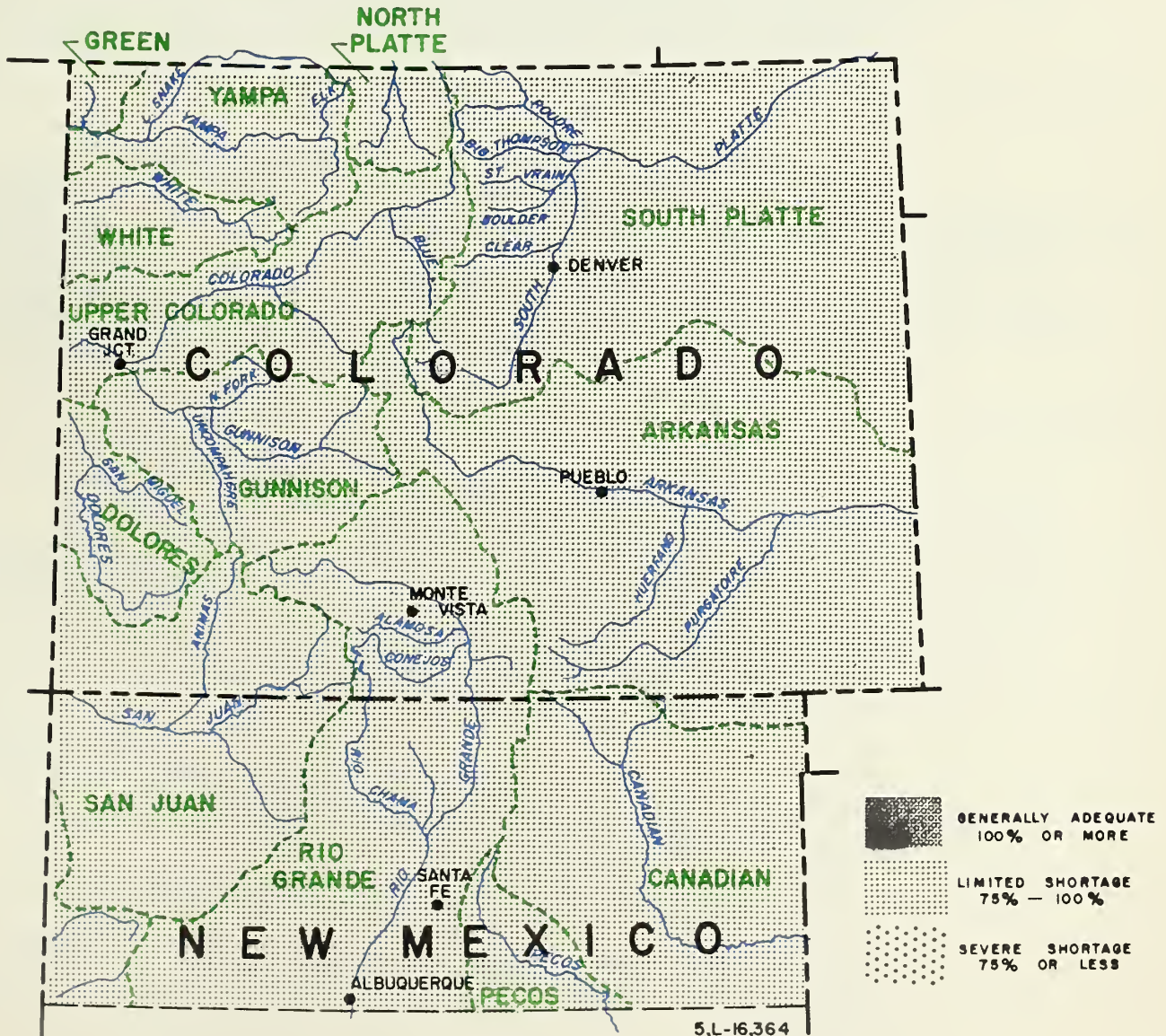


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WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

WATERSHED I - SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Fort Collins, Big Thompson, Longmont, Boulder Valley, Jefferson, Teller-Park, Douglas County, Morgan, Kiowa, West Arapahoe, West Adams, East Adams, Platte Valley, Southeast Weld, and West Greeley Soil Conservation Districts.

WATERSHED II - ARKANSAS RIVER WATERSHED

Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero, East Otero, and Big Sandy Soil Conservation Districts.

WATERSHED III - RIO GRANDE WATERSHED (COLORADO)

Describes water supply conditions in Rio Grande, Center, Mosca Hooper, Mt. Blanca, Sanches, and Culebra Soil Conservation Districts.

WATERSHED IV - RIO GRANDE WATERSHED (NEW MEXICO)

Describes water supply conditions in Lower Cebolla, Abiquiu-Vallecitos, Eastern Taos, Lindrith, Coyote-Canones, Espanola Valley, Pojoaque, Jemez, Santa Fe-Sandoval, Tijeras, Cuba, and Edgewood Soil Conservation Districts.

WATERSHED V - DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED

Describes water supply conditions in San Miguel Basin. Dove Creek, Dolores. Mancos, LaPlata, Pine River, San Juan, and Glade Park Soil Conservation Districts.

WATERSHED VI - GUNNISON RIVER WATERSHED

Describes water supply conditions in Delta, Gunnison, Cimarron, Shavano, and Uncompahgre Soil Conservation Districts.

WATERSHED VII - COLORADO RIVER WATERSHED

Describes water supply conditions in DeBeque, Lower Grand Valley, Bookcliff, Eagle County, Middle Park, Glade Park, Upper Grand Valley, Plateau Valley, South Side, and Mt. Sopris Soil Conservation Districts.

WATERSHED VIII - YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED

Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, Upper White River, Lower White River, and Douglas Creek Soil Conservation Districts.

WATERSHED IX - LOWER SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Sedgwick, South Platte, Haxton, Peetz, Padroni, Morgan Rock Creek and Yuma Soil Conservation Districts.

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
SOUTH PLATTE RIVER WATERSHED IN COLORADO
as of

FEBRUARY 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



WATER USERS ON THE SOUTH PLATTE MAY BE IN FOR SHORT WATER SUPPLIES THIS SUMMER UNLESS THIS AREA RECEIVES MUCH ABOVE NORMAL SNOWFALL DURING THE NEXT THREE MONTHS. CURRENT SNOW COVER IS ONLY ABOUT 55% OF NORMAL.

SOIL MOISTURE



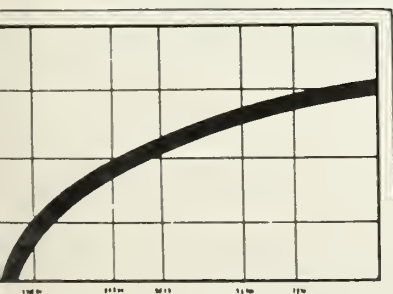
THE PICTURE PAINTED BY SNOW PACK IS NOT IMPROVED BY THE ADDITION OF SOIL MOISTURE. HIGH ELEVATION STATION INDICATED SOIL MOISTURE IS BELOW NORMAL AND FAR BELOW LAST YEAR AT THIS TIME. SUMMER RUNOFF WILL BE REDUCED DUE TO THE SOIL MOISTURE VOID.

RESERVOIR STORAGE



ONE OF THE BRIGHT SPOTS IS THE CARRYOVER STORAGE. RESERVOIRS IN THIS AREA CONTAIN ABOVE NORMAL AMOUNTS OF WATER. THE BIG THOMPSON PROJECT IS IN ESPECIALLY GOOD SHAPE WITH GRANBY RESERVOIR NEARLY FULL. BOTH HORSETOOTH AND CARTER CONTAIN LESS THAN LAST YEAR BUT BOTH ARE NEAR NORMAL. THIS STORAGE WILL NOT BE ADEQUATE TO SUPPLY ALL NEEDED WATER IF STREAMFLOW IS EXTREMELY DEFICIENT.

EXPECTED STREAMFLOW



NO NUMERICAL FORECASTS ARE MADE IN FEBRUARY BUT WILL BE MADE IN MARCH.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

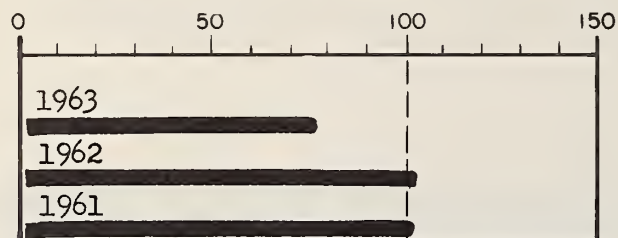
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F. A. Mark, State Conservationist,
Colorado

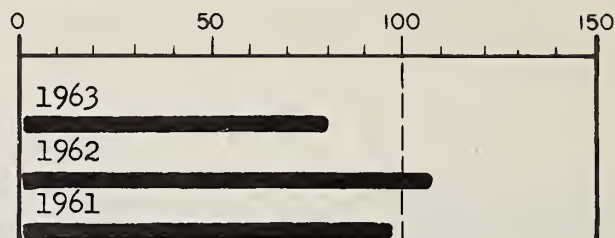
R. G. Wilson, Area Conservationist,
Littleton, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

CACHE LA POUDRE - BOULDER



CLEAR CREEK - UPPER SOUTH PLATTE



RESERVOIR STORAGE (1,000 AC. FT.)

MEASURED FIRST OF MONTH

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|-----------------|-----------------|-----------|-----------|---------------------------|
| Antero | 33.0 | 15.7 | 15.7 | 14.9 |
| Barr Lake | 32.2 | 19.0 | 28.5 | 24.3 |
| Black Hollow | 8.0 | 3.8 | 4.7 | 3.4 |
| Boyd Lake | 44.0 | 4.0 | 4.1 | 18.5 |
| Cache La Poudre | 9.5 | 8.6 | 9.3 | 7.6 |
| Carter Lake * | 108.9 | 74.0 | 80.6 | 69.2 |
| Chambers Lake | 8.8 | 1.1 | 6.8 | 2.6 |
| Cheeseman | 79.0 | 43.3 | 79.1 | 52.7 |
| Cobb Lake | 34.3 | 19.2 | 20.4 | 5.5 |
| Eleven Mile | 81.9 | 96.8 | 97.8 | 69.4 |
| Fossil Creek | 11.6 | 7.4 | 7.6 | 7.9 |
| Gross | 43.1 | 24.3 | 40.6 | --- |
| Halligan | 6.4 | 3.0 | 4.8 | 2.0 |
| Horsetooth * | 143.5 | 91.4 | 121.7 | 94.0 |
| Lake Loveland | 14.3 | 9.1 | 8.7 | 7.0 |
| Lone Tree | 9.2 | 7.9 | 7.8 | 8.4 |
| Mariano | 5.4 | 5.1 | 4.9 | 3.1 |
| Marshall | 10.3 | 0.3 | 6.0 | 3.5 |
| Marston | 18.9 | 15.2 | 16.9 | 15.1 |
| Milton | 24.4 | 12.3 | 12.8 | 12.8 |
| Standley | 18.5 | 4.9 | 13.1 | 12.4 |
| Terry Lake | 8.2 | 5.7 | 5.8 | 4.0 |
| Union | 12.7 | 9.9 | 12.0 | 7.2 |
| Windsor | 18.6 | 12.5 | 13.3 | 15.6 |

SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|---------------|-------------------|-----------|-----------|-------------------------|
| Alpine Camp | 6.9 | 2.9 | 5.0 | 3.5 |
| Beaver Dam | 7.1 | 3.2 | 4.9 | 3.8 |
| Feather | 10.1 | 4.0 | 6.8 | 4.6 |
| Guard Station | 6.9 | 2.7 | 5.0 | 3.4 |
| Hoop Creek | 4.9 | 2.9 | 3.5 | 2.7 |
| Hoosier Pass | 7.8 | 4.0 | 7.8 | 5.1 |
| Kenosha Pass | 4.4 | 1.9 | 3.1 | 2.6 |
| Laramie Road | 12.4 | 6.2 | 10.4 | 7.6 |
| Two Mile | 9.1 | 4.1 | 6.6 | 5.8 |

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
|-----------------------------|------------------------|---------------------|-----------------|
| No Forecasts until March 1. | | | |

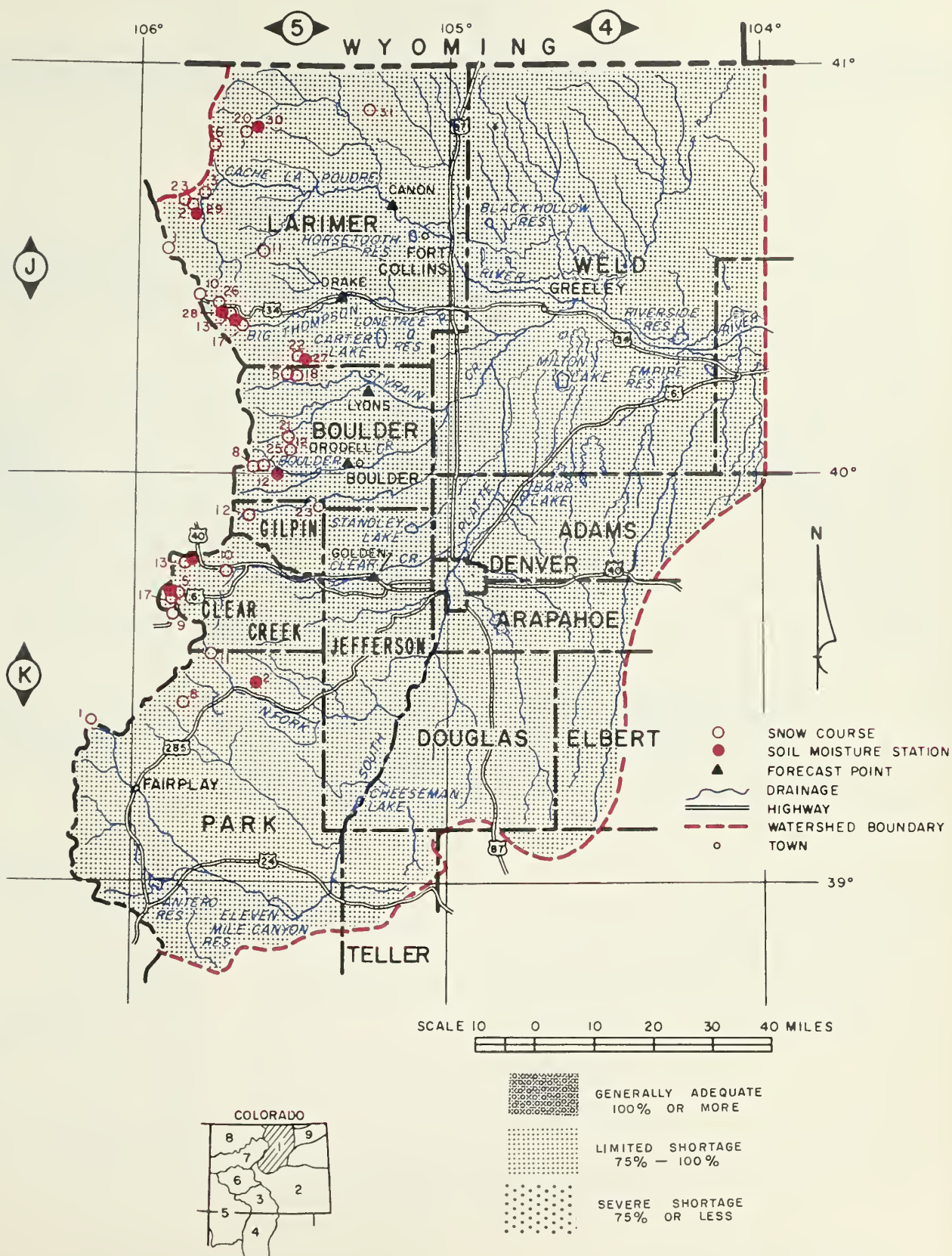
PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER AVE. DEP. | | WINTER AVE. Dec. DEP. | |
|--------------------|-----------------------------------|------|-----------------------|-----|
| Upper South Platte | 2.28 | 2.55 | .31 | .22 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

- (1) Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
- (2) Observed flow plus by-pass to power plants.
- (3) Observed flow minus diversions through Jones Tunnel.

SOUTH PLATTE RIVER WATERSHED IN COLORADO



SNOW

| SNOW | | CURRENT INFORMATION | | | PAST RECORD | |
|------------------------------------|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| SNOW COURSE | NO. | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| SOUTH PLATTE RIVER AND TRIBUTARIES | | | | | | |
| Baltimore | 5K23 | 1-31 | 17 | 3.4 | 7.7 | --- |
| Berthoud Falls | 5K13 | 1-31 | 29 | 6.3 | 12.0 | 9.2 |
| Big South | 5J3 | 1-26 | 8 | 0.9 | 2.2 | 1.8 |
| Boulder Falls | 5J25 | 1-30 | 28 | 4.1 | 4.9 | 8.0* |
| Cameron Pass (A) | 5J1 | | | | 21.2 | 13.6 |
| Chambers Lake | 5J2 | 1-26 | 17 | 2.3 | 7.4 | 5.6 |
| Copeland Lake | 5J18 | 1-29 | 7 | 0.9 | 4.0 | 4.0* |
| Deadman Hill (A) | 5J6 | | | | 16.8 | 8.8* |
| Deer Ridge | 5J17 | 1-29 | 13 | 2.6 | 5.9 | 3.7* |
| Empire | 5K10 | 1-29 | 14 | 3.0 | 5.9 | 4.5* |
| Geneva Park | 5K11 | NS | | | --- | 3.9* |
| Grizzly Peak (B) | 5K9 | 1-28 | 29 | 5.7 | 15.0 | 11.3 |
| Hidden Valley | 5J13 | 1-28 | 18 | 3.6 | 10.1 | 7.2 |
| Hoosier Pass | 6K1 | 1-30 | 28 | 5.0 | 10.8 | 7.2 |
| Hour Glass Lake | 5J11 | Est. | 17 | 1.6 | 5.6 | 4.1* |
| Jefferson Creek | 5K8 | NS | | | --- | 5.6 |
| Lake Irene | 5J10 | Est. | 30 | 6.8 | 22.2 | 13.6 |
| Long's Peak | 5J22 | 1-27 | 12 | 2.3 | 7.5 | 7.8* |
| Lost Lake | 5J23 | 1-26 | 21 | 4.2 | 10.2 | 7.4* |
| Loveland Pass | 5K5 | 1-28 | 31 | 5.9 | 13.2 | 9.4 |
| Loveland Lift No. 1 | 5K24 | 1-28 | 38 | 8.1 | 22.3 | --- |
| Pine Creek | 5J31 | 1-29 | 11 | 1.9 | 2.3 | --- |
| Red Feather | 5J20 | 1-29 | 18 | 3.5 | 7.1 | 5.1* |
| Two Mile | 5J26 | 1-28 | 20 | 4.1 | 15.0 | 7.8* |
| University Camp | 5J8 | 1-30 | 36 | 7.3 | 10.5 | 12.7 |
| Ward | 5J21 | 1-30 | 16 | 2.7 | 4.9 | 3.7* |
| Wild Basin | 5J5 | Est. | 21 | 3.7 | 13.6 | 9.0 |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Ft. Collins, Colorado

RETURN IF NOT DELIVERED

UNITED STATES
 DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey
 Colorado State University
 Ft. Collins, Colorado

POSTAGE AND FEES PAID
 U.S. DEPARTMENT OF AGRICULTURE

OFFICIAL BUSINESS

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
ARKANSAS RIVER WATERSHED IN COLORADO
as of
FEBRUARY 1, 1963

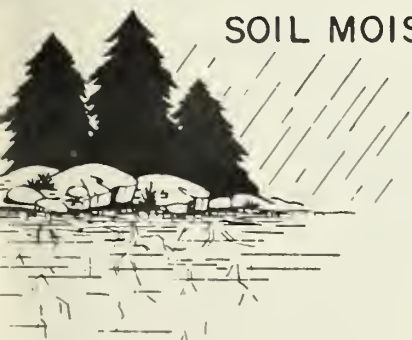
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW PACK IN THE HIGH WATERSHEDS OF THE ARKANSAS IS DEFICIENT. THIS SHORTAGE COULD LEAD TO VERY SHORT WATER SUPPLIES THIS SUMMER. THIS AREA HAS ONE OF THE BEST SNOW PACKS IN THE STATE BUT IS ONLY ABOUT 67% OF NORMAL.

SOIL MOISTURE



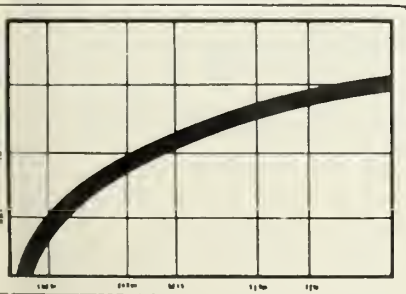
SOIL MOISTURE STATIONS INDICATE EXTREMELY POOR MOISTURE CONDITIONS IN THE HIGH WATERSHEDS. THIS WILL REDUCE RUNOFF. MUCH SNOW IS NEEDED TO OVERCOME THIS CONDITION. VALLEY SOILS ARE REPORTED AS FAIR TO POOR.

RESERVOIR STORAGE



CARRYOVER STORAGE IN THE MAJOR RESERVOIRS DOES NOT BRIGHTEN THE PICTURE. CURRENT STORAGE IS ONLY ABOUT 36% OF NORMAL. THESE RESERVOIRS CAN NOT FURNISH MUCH RELIEF IF THE SNOW MELT RUNOFF IS BELOW NORMAL.

EXPECTED STREAMFLOW



NO NUMERICAL FORECASTS UNTIL MARCH 1.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

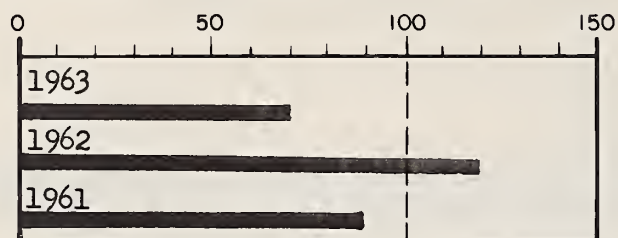
ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

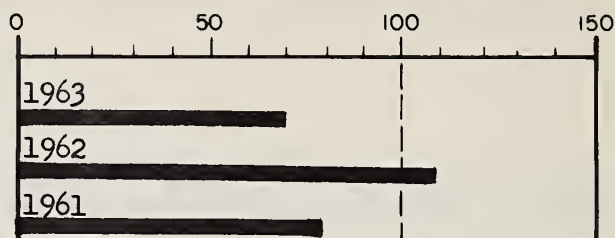
Dearl B. Beach, Area Conservationist,
Colorado Springs, Colorado
Will D. McCorkle, Area Conservationist,
Lamar, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

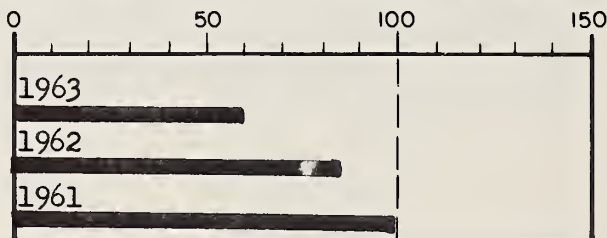
ARKANSAS ABOVE CADDOA DAM



ARKANSAS BELOW CADDOA DAM



PURGATOIRE - CUCCHARAS - HUERFANO



RESERVOIR STORAGE (1,000 AC. FT.)

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|--------------|-----------------|-----------|-----------|---------------------------|
| Adobe Creek | 61.6 | 0 | 0 | 22.4 |
| Clear Creek | 11.4 | 8.6 | 10.0 | 5.7 |
| Cucharas | 40.0 | 0 | 6.8 | 5.5 |
| Great Plains | 150.0 | 9.0 | 28.9 | 44.4 |
| Horse Creek | 26.9 | 1.7 | 6.6 | 7.3 |
| John Martin | 366.6 | 12.5 | 19.4 | 58.5 |
| Meredith | 41.9 | 6.4 | 14.1 | 13.4 |
| Model | 15.0 | 2.6 | 5.2 | 2.2 |
| Sugar Loaf | 17.4 | 6.3 | 10.6 | 8.0 |
| Twin Lakes | 57.9 | 22.5 | 30.0 | 23.7 |

PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER | | WINTER | |
|----------|-------------------------|-------|--------|------|
| | AVE. | DEP. | AVE. | DEP. |
| | | | Dec. | |
| Arkansas | 2.96 | -2.52 | .43 | -.21 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

MEASURED FIRST OF MONTH

SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|-------------------|-------------------|-----------|-----------|-------------------------|
| Garfield | 6.7 | 1.3 | 4.4 | 3.3 |
| King | 3.3 | 1.6 | 2.3 | 1.8 |
| LaVeta Pass | 11.9 | 3.6 | 8.2 | 7.0 |
| Leadville | 7.8 | 3.5 | 5.4 | 3.9 |
| Twin Lakes Tunnel | 4.5 | 0.9 | 3.1 | 2.1 |

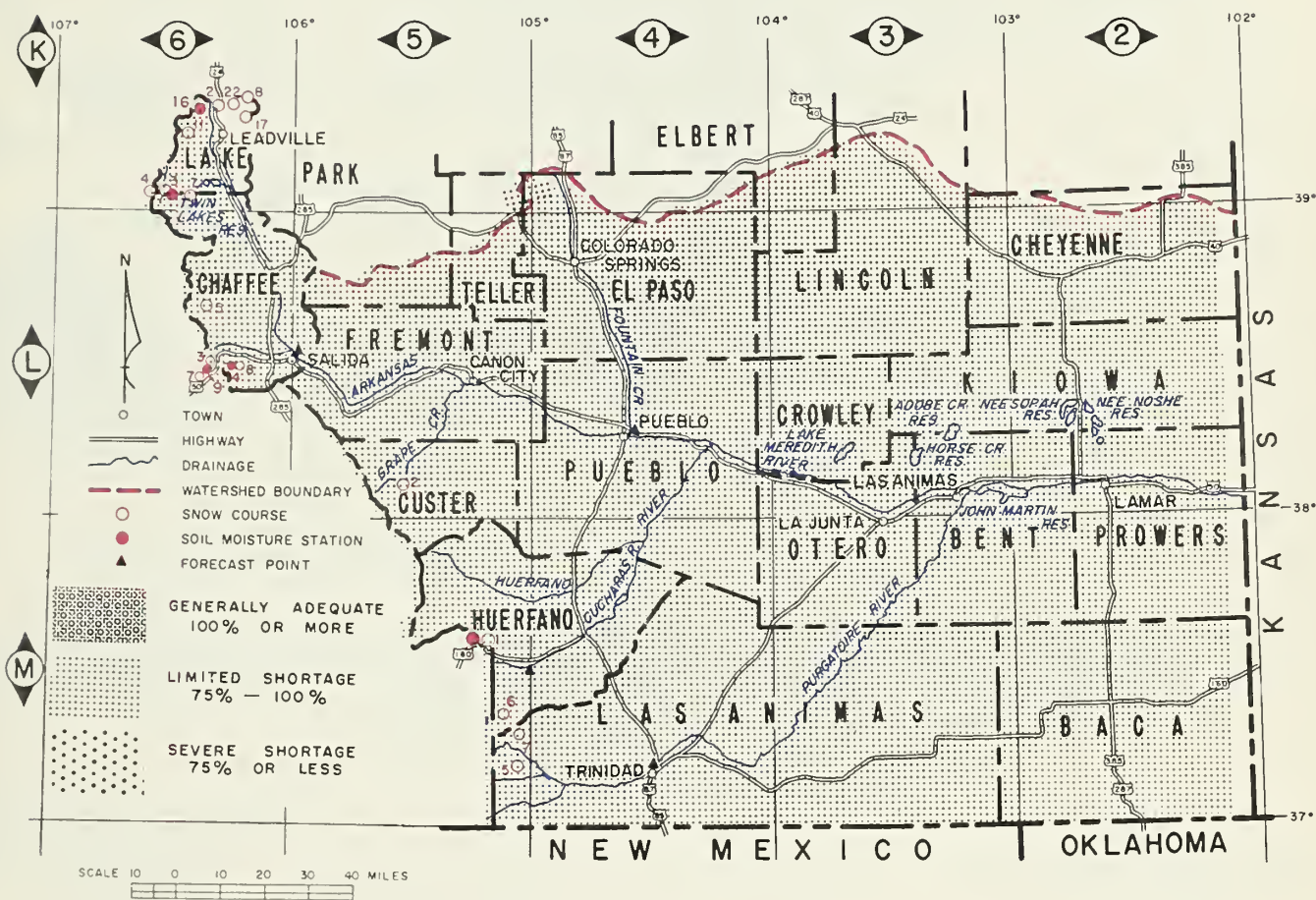
ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

| APRIL THROUGH SEPTEMBER | | | |
|----------------------------|------------------------|---------------------|-----------------|
| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
| No Forecast until March 1. | | | |

(1) Observed flow plus change in storage in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Busk-Ivanhoe and Twin Lake Tunnels and Ewing, Fremont Pass, Wurtz and Columbine Ditches.

ARKANSAS RIVER WATERSHED IN COLORADO



SNOW

| SNOW COURSE | NO. | CURRENT INFORMATION | | | PAST RECORD | |
|-------------------|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| | | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| ARKANSAS RIVER | | | | | | |
| Bigelow Divide | 5L3 | 1-29 | 15 | 3.1 | -- | -- |
| Blue Lakes | 5M6 | 1-28 | 5 | 1.7 | 2.9 | -- |
| Bourbon | 5M5 | NS | -- | -- | -- | -- |
| Cooper Hill | 6K23 | 1-27 | 22 | 4.3 | 8.9 | -- |
| Cucharas Pass | 5M7 | 1-28 | 14 | 3.5 | 6.3 | -- |
| East Fork | 6K17 | 1-29 | 19 | 3.5 | 8.1 | 5.8* |
| Four Mile Park | 6K7 | 2-01 | 10 | 1.7 | 7.7 | 3.0 |
| Fremont Pass | 6K8 | 1-29 | 31 | 6.0 | 15.0 | 10.3 |
| Garfield | 6L8 | 1-30 | 40 | 7.6 | 12.7 | -- |
| LaVeta Pass (B) | 5M1 | 1-28 | 17 | 5.2 | 9.6 | 6.6 |
| Monarch Pass | 6L4 | 1-29 | 36 | 7.7 | 15.2 | 10.8 |
| St. Elmo (A) | 6L5 | -- | -- | -- | 11.5 | 8.3* |
| Tennessee Pass | 6K2 | 2-01 | 34 | 5.0 | 8.5 | 6.9 |
| Tomichi | 6L7 | 1-29 | 27 | 6.0 | 10.5 | -- |
| Twin Lakes Tunnel | 6K3 | 1-31 | 22 | 4.5 | 12.1 | 6.6 |
| Westcliffe | 5L2 | NS | -- | -- | -- | -- |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Ft. Collins, Colorado

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OFFICIAL BUSINESS

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

UPPER RIO GRANDE WATERSHED IN COLORADO

as of

FEBRUARY 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW COVER PERCENTAGES CHANGE ALMOST DAY TO DAY, BUT CURRENT SNOW PACK IS ONLY ABOUT 65% OF NORMAL FOR THE UPPER BASIN. THE UPPER MAIN STEM AREA HAS ABOUT 65% OF AVERAGE WHILE THE CONEJOS HAS A SLIGHTLY LOWER PERCENTAGE OF COVER WITH 59%.

SOIL MOISTURE



SOIL MOISTURE CONDITIONS AT THE HIGHER ELEVATIONS ARE BELOW NORMAL, ESPECIALLY IN THE LAVETA PASS AREA. SOME SNOW WATER WILL BE NEEDED TO FILL THE SOIL PRIOR TO RUNOFF. VALLEY SOIL MOISTURE IS POOR TO FAIR.

RESERVOIR STORAGE



CARRYOVER STORAGE IS NOT AS GOOD AS COULD BE HOPED. THE MAJOR RESERVOIRS CONTAIN ONLY ABOUT 61% OF THEIR 15 YEAR NORMAL. COMBINED STORAGE IN SIX OF THE RESERVOIRS IS ONLY 27,000 ACRE FEET. THIS IS ONLY ABOUT ONE TENTH OF CAPACITY.

EXPECTED STREAMFLOW



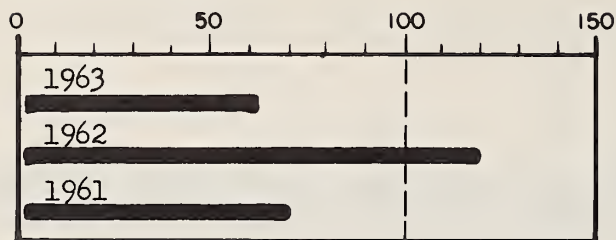
NO NUMERICAL FORECASTS UNTIL MARCH 1.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

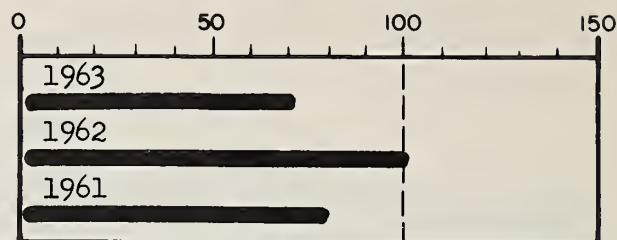
ISSUED BY: SOIL CONSERVATION SERVICE

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

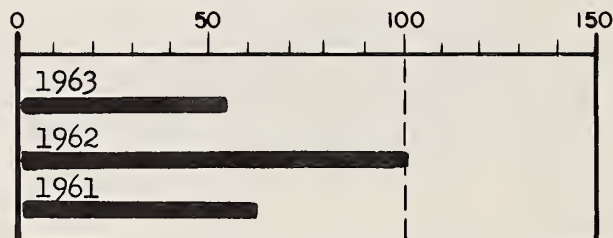
RIO GRANDE



ALAMOSA - CONEJOS



SANGRE DE CRISTO STREAMS



RESERVOIR STORAGE (1,000 AC. FT.)

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|-------------|-----------------|-----------|-----------|---------------------------|
| Continental | 26.7 | 2.7 | 4.9 | 7.1 |
| Platoro | 60.0 | 4.0 | 3.4 | 4.7 |
| Rio Grande | 45.8 | 8.4 | 9.3 | 11.4 |
| Sanchez | 103.2 | 5.2 | 11.9 | 10.9 |
| Santa Maria | 45.0 | 3.8 | 3.0 | 7.5 |
| Terrace | 17.7 | 2.9 | 7.1 | 3.0 |

MEASURED FIRST OF MONTH

PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER | | WINTER | |
|--------------------|-------------------------|------|--------|------|
| | Ave. | Dep. | Ave. | Dep. |
| Rio Grande (Colo.) | 4.97 | 1.47 | 1.10 | 1.65 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|--------------|-------------------|-----------|-----------|-------------------------|
| Alberta Park | 8.2 | 4.3 | 5.6 | 4.8 |
| Bristol View | 6.1 | 3.7 | 4.2 | 4.4 |
| LaVeta Pass | 11.9 | 3.6 | 8.2 | 7.0 |
| Mogote | 10.7 | 4.5 | 6.8 | 5.3 |

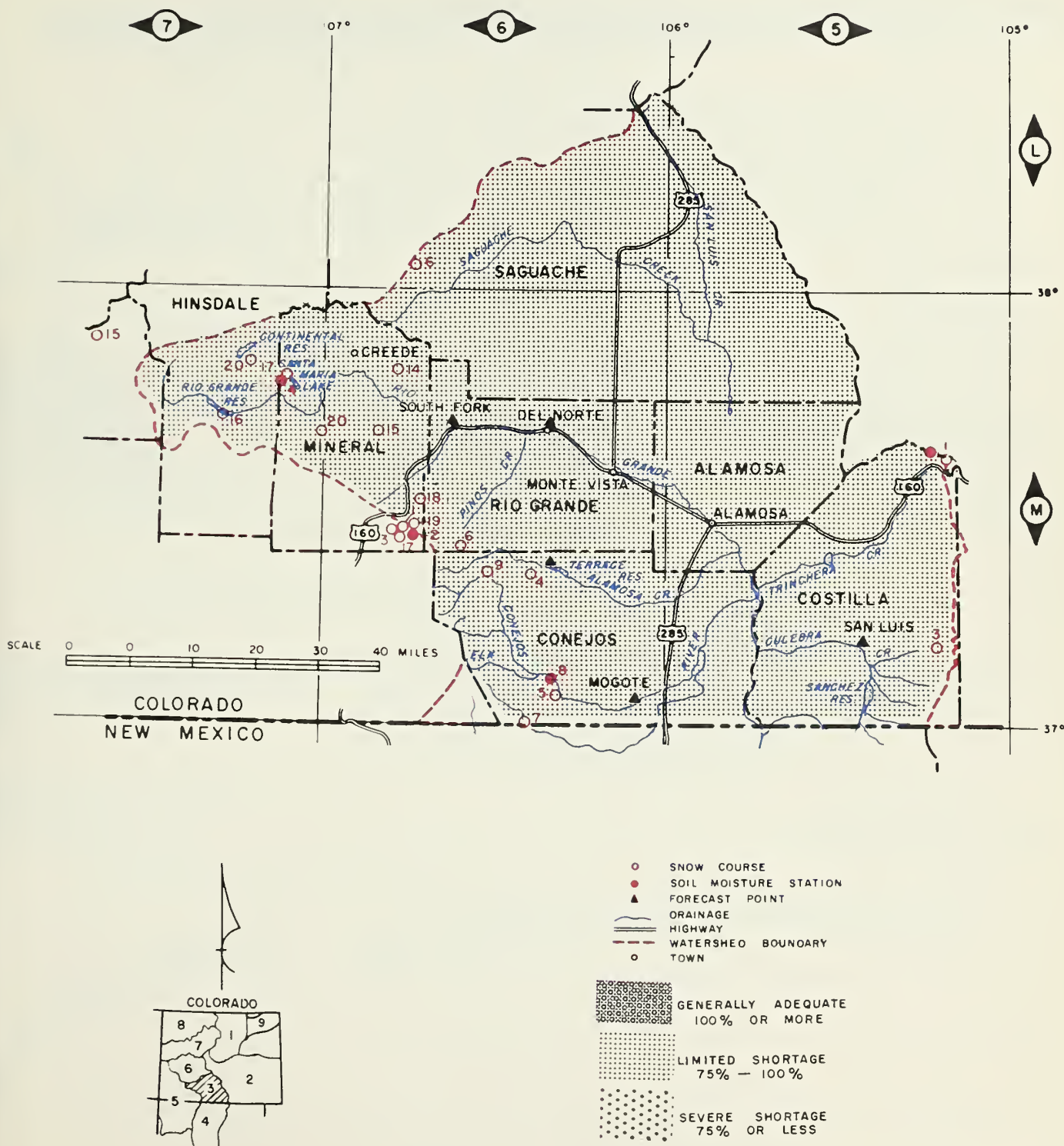
ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

| APRIL THROUGH SEPTEMBER | | | |
|--------------------------------|------------------------------|------------------------------|--------------------|
| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
| No Forecasts until March 1. | | | |

- (1) Observed flow plus change in storage in Santa Maria, Rio Grande, and Continental Reservoir
- (2) Observed flow plus changes in storage in Sanchez Reservoir.

UPPER RIO GRANDE WATERSHED IN COLORADO



SNOW

| SNOW COURSE | NO. | CURRENT INFORMATION | | | PAST RECORD | |
|-------------------------------|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| | | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| RIO GRANDE IN COLORADO | | | | | | |
| Cochetopa Pass | 6L6 | 1-29 | 13 | 1.8 | 4.0 | 3.5* |
| Hiway | 6M19 | 1-28 | 37 | 9.8 | 18.2 | -- |
| Lake Humphreys (A) | 6M15 | 2-02 | 20 | 3.1 | -- | -- |
| Pass Creek | 6M18 | 1-28 | 26 | 5.8 | 10.6 | -- |
| Pool Table (A) | 5M14 | 2-02 | 12 | 2.3 | 11.1 | -- |
| Porcupine (A) | 7M20 | 2-02 | 26 | 6.1 | 15.1 | 6.9* |
| Red Mountain Pass (B) | 7M15 | 1-29 | 46 | 9.3 | 24.5 | 14.9 |
| Santa Maria | 7M17 | | | | 6.2 | 4.0 |
| Upper Rio Grande | 7M16 | 1-28 | 15 | 2.8 | 8.2 | 5.6 |
| Wolf Creek Pass | 6M1 | 1-28 | 47 | 12.0 | 21.0 | 19.5 |
| Wolf Creek Summit (B) | 6M17 | 1-28 | 46 | 12.2 | 22.0 | 17.6* |
| ALAMOSA RIVER | | | | | | |
| Silver Lakes | 6M4 | 1-28 | 13 | 2.2 | -- | 5.1 |
| Summitville (A) | 6M6 | 1-30 | 32 | 7.3 | 16.5 | 11.1* |
| CONEJOS RIVER | | | | | | |
| Cumbres Pass (A) | 6M7 | 2-02 | 43 | 11.0 | 15.0 | 13.5 |
| Platoro (A) | 6M9 | 2-02 | 39 | 8.1 | 17.8 | -- |
| River Springs | 6M5 | 1-29 | 11 | 1.8 | 6.4 | 6.2 |
| SANGRE DE CRISTO RANGE (Colo) | | | | | | |
| Blue Lakes (B) | 5M6 | 1-28 | 5 | 1.7 | 2.9 | -- |
| Cucharas Pass (B) | 5M7 | 1-28 | 14 | 3.5 | 6.3 | -- |
| Culebra | 5M3 | 1-28 | 23 | 5.6 | 5.7 | 6.5 |
| LaVeta Pass | 5M1 | 1-28 | 17 | 5.2 | 9.6 | 6.6 |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Ft. Collins, Colorado

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RIO GRANDE WATERSHED IN NEW MEXICO

as of

FEBRUARY 1, 1963

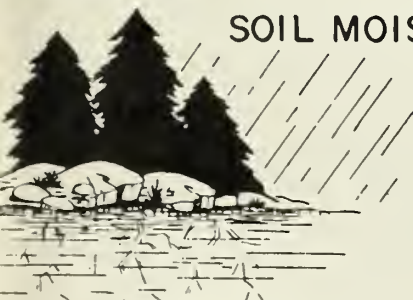
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW COVER IN THE MOUNTAINS OF NEW MEXICO STANDS AT ABOUT 82% OF NORMAL. THIS IS NOT GOOD BUT MUCH BETTER THAN THE 67% OF SNOW PACK IN THE HEADWATERS AREA OF COLORADO. MUCH MORE SNOW IS NEEDED TO INSURE ADEQUATE WATER SUPPLIES THIS SUMMER.

SOIL MOISTURE



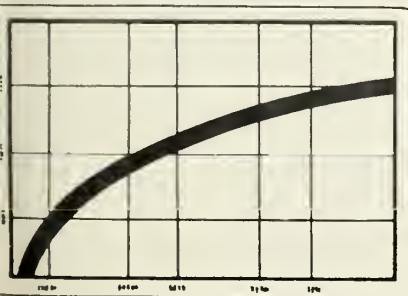
SOIL MOISTURE CONDITIONS DO NOT PRESENT AN OPTIMISTIC PICTURE. ALL STATIONS INDICATE LESS MOISTURE IN THE SOIL THAN AVERAGE AT THIS TIME AND FAR LESS THAN LAST YEAR. A CONSIDERABLE AMOUNT OF MELTING SNOW WILL BE NEEDED TO REPLACE THIS VOID.

RESERVOIR STORAGE



RESERVOIR STORAGE IS ABOUT 75% OF NORMAL. ELEPHANT BUTTE HAS SLIGHTLY MORE CARRYOVER THAN LAST YEAR AT THIS TIME. ALAMORGORDO AND RED BLUFF IN TEXAS CONTAIN LESS THAN LAST YEAR. THESE RESERVOIRS WILL BE SOME HELP IN SUPPLYING SUMMER NEEDS, BUT CAN NOT SUPPLY ALL NEEDED WATER.

EXPECTED STREAMFLOW



NO NUMERICAL FORECASTS WILL BE MADE TILL MARCH 1, BECAUSE OF THE EXTREME VARIANCE IN FUTURE SNOW FALLS.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

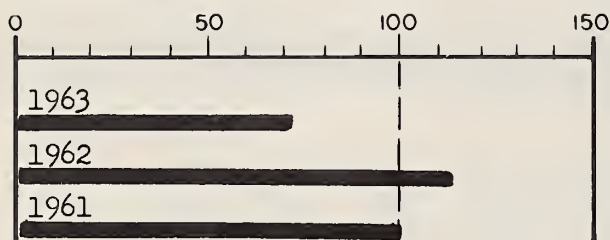
WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

RESERVOIR STORAGE (1,000 AC. FT.)

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|-----------------|-----------------|-----------|-----------|---------------------------|
| Alamogordo | 122.1 | 78.0 | 110.0 | 47.4 |
| Elephant Butte | 2206.8 | 425.7 | 399.4 | 581.2 |
| El Vado | 194.5 | 2.5 | 2.5 | 34.9 |
| Caballo | 344.0 | 38.9 | 21.9 | 155.7 |
| McMillan-Avalon | 37.0 | 18.7 | 21.4 | 13.7 |
| Red Bluff(Tex) | 307.0 | 27.7 | 60.9 | 87.1 |
| Conchas | 600.0 | 289.6 | 279.4 | 262.5 |

MEASURED FIRST OF MONTH

RIO CHAMA

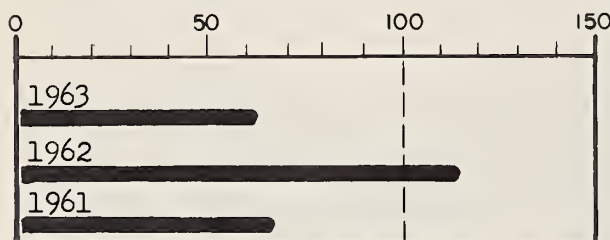


PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER | | WINTER | |
|-------------------|-------------------------|-------|-----------|-------|
| | AVE. | DEP. | AVE. Dec. | DEP. |
| Lower Rio Grande | 4.63 | +0.07 | .84 | +0.72 |
| Middle Rio Grande | 5.48 | -.19 | .55 | -.32 |
| Upper Rio Grande | 4.97 | -1.47 | 1.10 | -.65 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

UPPER RIO GRANDE

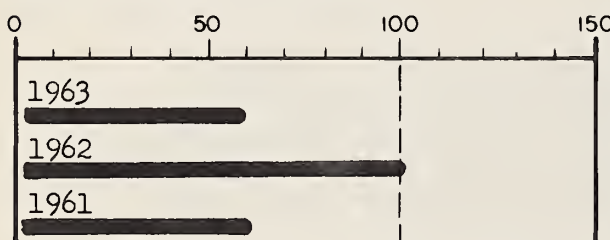


SOIL MOISTURE

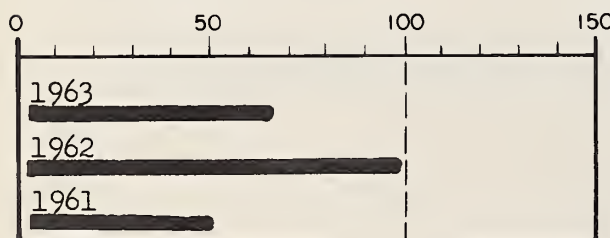
| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|---------------------|-------------------|-----------|-----------|-------------------------|
| Alberta Park (Colo) | 8.2 | 4.3 | 5.6 | 4.8 |
| Aqua Piedra | 7.2 | 3.3 | 4.1 | 3.5 |
| Bateman | 6.7 | 2.0 | 3.0 | 2.2 |
| Big Tesuque | 3.7 | 0.1 | 1.9 | 1.2 |
| Bristol View (Colo) | 6.1 | 1.7 | 4.2 | 4.4 |
| Chamita (New Mex) | 8.0 | 1.2 | 3.4 | 2.0 |
| Fenton Hill | 6.5 | | 4.9 | |
| Mogote (Colo) | 10.7 | 4.5 | 6.8 | 5.3 |
| Red Summit | 4.8 | 2.2 | 2.4 | 2.5 |
| Rio En Medio | 3.5 | 0.6 | 2.0 | 1.1 |
| Taos Canyon | 3.3 | 2.1 | 2.4 | 2.3 |

ALL PROFILES 4 FEET DEEP

MIDDLE RIO GRANDE



LOWER RIO GRANDE



STREAMFLOW FORECAST (1,000 AC. FT.)

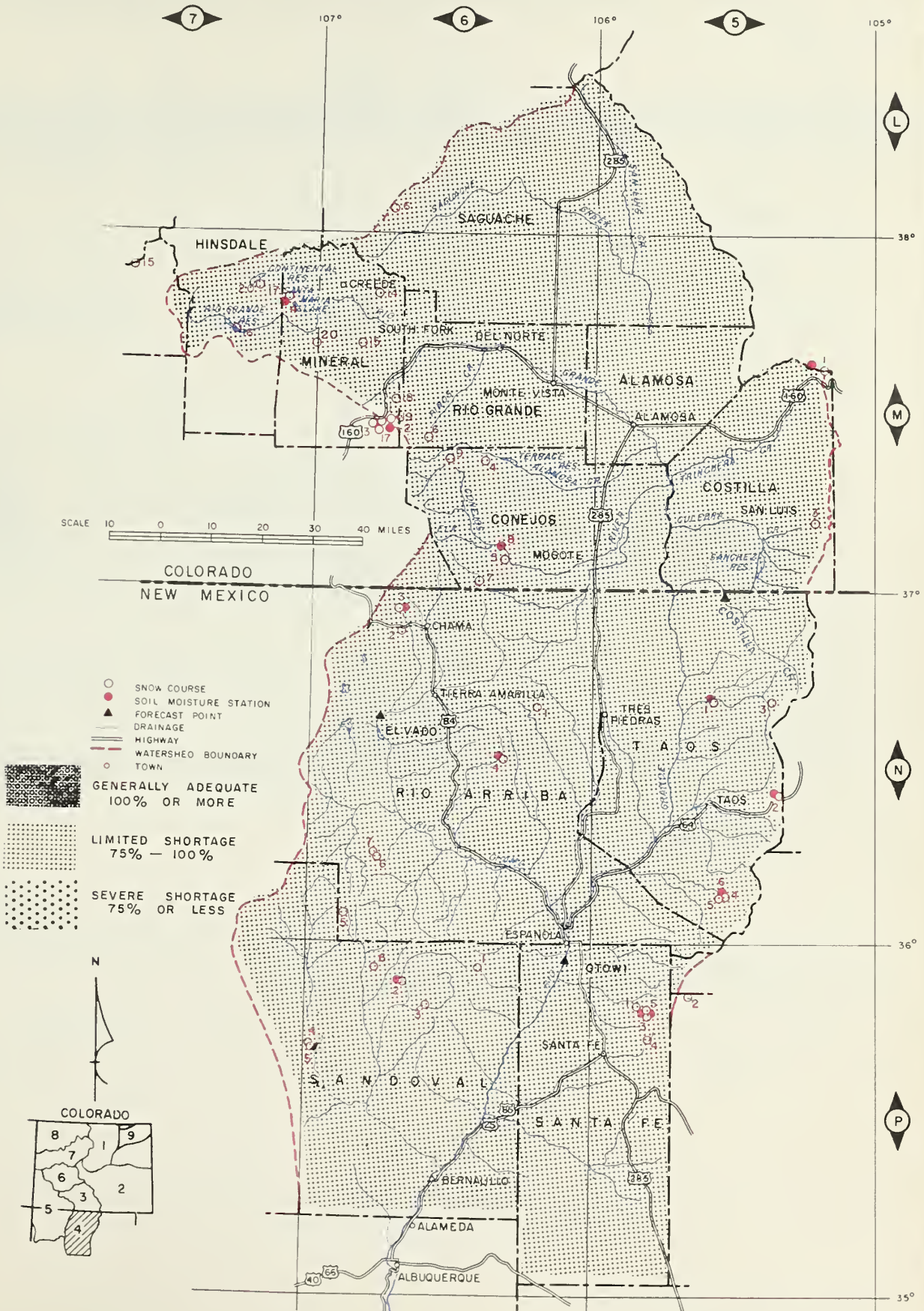
APRIL THROUGH SEPTEMBER

| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
|-----------------------------|------------------------|---------------------|-----------------|
| No Forecasts until March 1. | | | |

(10) Observed flow plus changes in storage in Santa Maria, Rio Grande, Continental, Terrace, Sanchez, Platoro and El Vado Reservoirs.

* Rio Grande at Otowi and Rio Grande at San Marcial Forecast and Average Mar-July inclusive.

RIO GRANDE WATERSHED IN NEW MEXICO



SNOW

| SNOW | | CURRENT INFORMATION | | | PAST RECORD | |
|---|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| SNOW COURSE | NO. | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| RIO GRANDE | | | | | | |
| Culebra (Colorado) | 5M13 | 1-28 | 23 | 5.6 | 5.7 | 6.5 |
| Cumbres Pass (A) | 6M7 | 2-02 | 43 | 11.0 | 15.0 | 13.5 |
| LaVeta Pass | 5M1 | 1-28 | 17 | 5.2 | 9.6 | 6.6 |
| Platoro (A) | 6M9 | 2-02 | 39 | 8.1 | 17.8 | --- |
| River Springs | 6M5 | 1-29 | 11 | 1.8 | 6.4 | 6.2 |
| Santa Maria | 7M17 | | | | 6.2 | 4.0 |
| Silver Lakes | 6M4 | 1-28 | 13 | 2.2 | ---- | 5.1 |
| Summitville (A) | 6M6 | 1-30 | 32 | 7.3 | 16.5 | 11.1* |
| Upper Rio Grande | 7M16 | 1-28 | 15 | 2.8 | 8.2 | 5.6 |
| Wolf Creek Pass | 6M1 | 1-28 | 47 | 12.0 | 21.0 | 19.5 |
| Aspen Grove (New Mexico) | 5P1 | NS | | | ---- | 3.2 |
| Bateman | 6N4 | NS | | | ---- | 7.6* |
| Big Tesuque | 5P3 | 1-30 | 19 | 5.2 | 5.2 | 3.4 |
| Blue Bird Mesa | 6P6 | 1-31 | 10 | 2.4 | | |
| Capuline Peak | 6N6 | 1-30 | 10 | 2.3 | | |
| Chama Divide | 6N2 | 1-30 | 6 | 1.0 | 3.3 | 3.9 |
| Chamita | 6N3 | 1-30 | 24 | 5.3 | 7.5 | 7.3 |
| Cordova (A) | 5N5 | 2-02 | 27 | 7.1 | 6.6 | 6.8 |
| Elk Cabin | 5P4 | 1-30 | 12 | 3.2 | 3.9 | 3.0* |
| Fenton Hill | 6P2 | 1-29 | 8 | .9 | 4.4 | 3.0* |
| Hematite Park | 5N3 | 1-29 | 11 | 2.0 | 5.1 | 3.5 |
| Pajarito Peak | 6P4 | 1-30 | 5 | 1.7 | | |
| Panchuela | 5P2 | 1-29 | 14 | 3.1 | 4.9 | 2.6 |
| Payrole (A) | 6N1 | 2-02 | 19 | 3.8 | 9.0 | 6.4 |
| Philmont | 5N6 | | | | | |
| Quemazon | 6P1 | 1-28 | 23 | 4.5 | 9.9 | 3.3* |
| Red River | 5N1 | 1-29 | 14 | 2.6 | 4.7 | 5.4 |
| Rio En Medio | 5P5 | 1-30 | 26 | 7.5 | 9.0 | 5.3* |
| Sandoval | 6P3 | 1-28 | 15 | 3.7 | | |
| Taos Canyon | 5N2 | 1-29 | 9 | 2.1 | 3.0 | 4.7 |
| Tres Ritos | 5N4 | 1-28 | 13 | 2.8 | 4.5 | 3.9 |
| NOTE: * - 1943 - 57 (ADJUSTED AVERAGES) | | | | | | |
| NS - NO SURVEY | | | | | | |
| (A) - AIR OBSERVED | | | | | | |
| (B) - ON ADJACENT DRAINAGE | | | | | | |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

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OFFICIAL BUSINESS

FOR THE SOIL CONSERVATION DISTRICTS IN THE
SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN
WATERSHEDS IN COLORADO AND NEW MEXICO

as of
 FEBRUARY 1, 1963

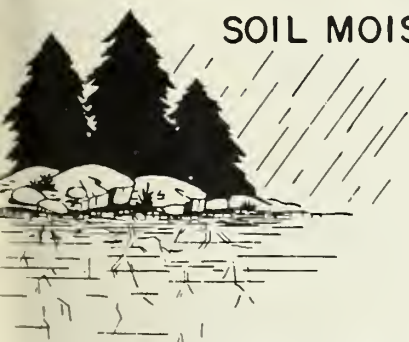
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
 COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW PACK AS OF THIS DATE IS NOT TOO GOOD. THERE IS ONLY ABOUT 63% OF NORMAL ON THE SAN JUAN, AND 50% ON BOTH THE ANIMAS AND DOLORES. THERE IS STILL AMPLE TIME TO BUILD A NORMAL SNOW PACK, AS ONLY ABOUT ONE HALF OF THE SNOW SEASON HAS PASSED. HEAVY SNOWS WILL BE NEEDED FOR THE NEXT THREE MONTHS TO ASSURE ADEQUATE WATER THIS SUMMER.

SOIL MOISTURE



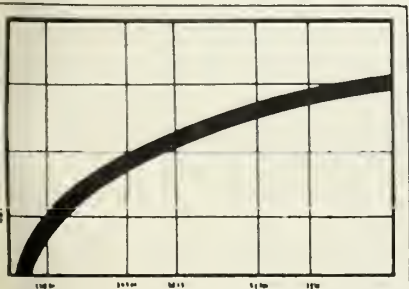
MOUNTAIN SOIL MOISTURE IS NORMAL TO SLIGHTLY BELOW, HOWEVER, THE SOIL MANTLE CONTAINS MUCH LESS WATER THAN LAST YEAR AT THIS TIME. SOME OF THE ALREADY LIGHT SNOW PACK WILL BE USED TO FILL THE SOILS PRIOR TO ANY RUNOFF THIS SPRING. PRECIPITATION WAS LIGHT DURING THE FALL MONTHS AND ALSO BELOW NORMAL DURING DECEMBER.

RESERVOIR STORAGE



RESERVOIR STORAGE IS NEAR NORMAL. VALLECITO NOW CONTAINS 51,000 ACRE FEET COMPARED TO A NORMAL OF 42,000. GROUNDHOG IS SLIGHTLY BELOW THE 15 YEAR NORMAL.

EXPECTED STREAMFLOW



NUMERICAL FORECASTS WILL NOT BE MADE UNTIL MARCH 1.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

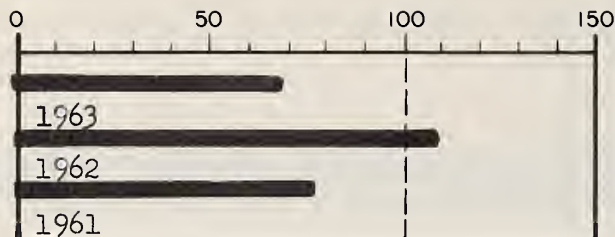
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F. A. Mark, State Conservationist,
 Colorado
 Benny Martin, Area Conservationist,
 Monte Vista, Colorado
 E. A. Nicholson, Area Conservationist,
 Grand Junction, Colorado

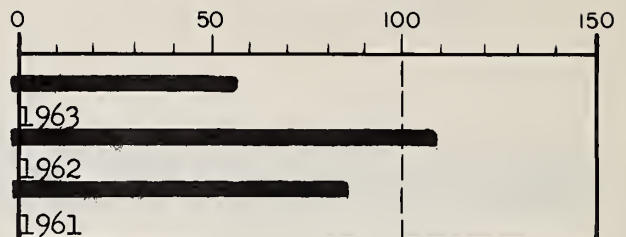
C. A. Tidwell, State Conservationist
 New Mexico
 J. B. Christy, Area Conservationist
 Albuquerque, New Mexico

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

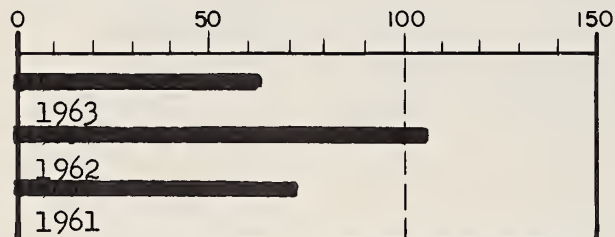
SAN JUAN



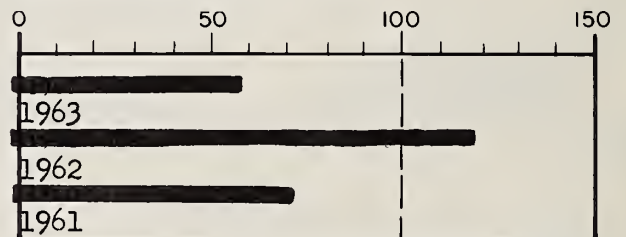
PIEDRA-PINOS-FLORIDA



DOLORES



ANIMAS-LA PLATA



RESERVOIR STORAGE (1,000 AC. FT.)

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|-----------|-----------------|-----------|-----------|---------------------------|
| Groundhog | 21.7 | 5.0 | 5.0 | 7.1 |
| Vallecito | 126.3 | 51.0 | NS | 42.0 |

MEASURED FIRST OF MONTH

PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER | | WINTER | |
|----------|-------------------------|-------|-----------|------|
| | Ave. | Dep. | Ave. Dec. | Dep. |
| Dolores | 4.75 | +0.37 | .60 | -.97 |
| San Juan | 7.10 | -.59 | 1.28 | -.33 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|---------------|-------------------|-----------|-----------|-------------------------|
| Cascade | 9.1 | 6.4 | 6.6 | 6.7 |
| Dolores | 19.6 | 4.7 | 0.3 | 4.3 |
| Lizard Head | 11.8 | 7.2 | 9.6 | 8.2 |
| Mineral Creek | 5.7 | 3.1 | 4.0 | 3.6 |
| Molas Lake | 9.4 | 4.3 | 5.1 | 4.2 |
| Rico | 13.8 | 9.1 | 9.8 | 9.1 |

STREAMFLOW FORECAST (1,000 AC. FT.)

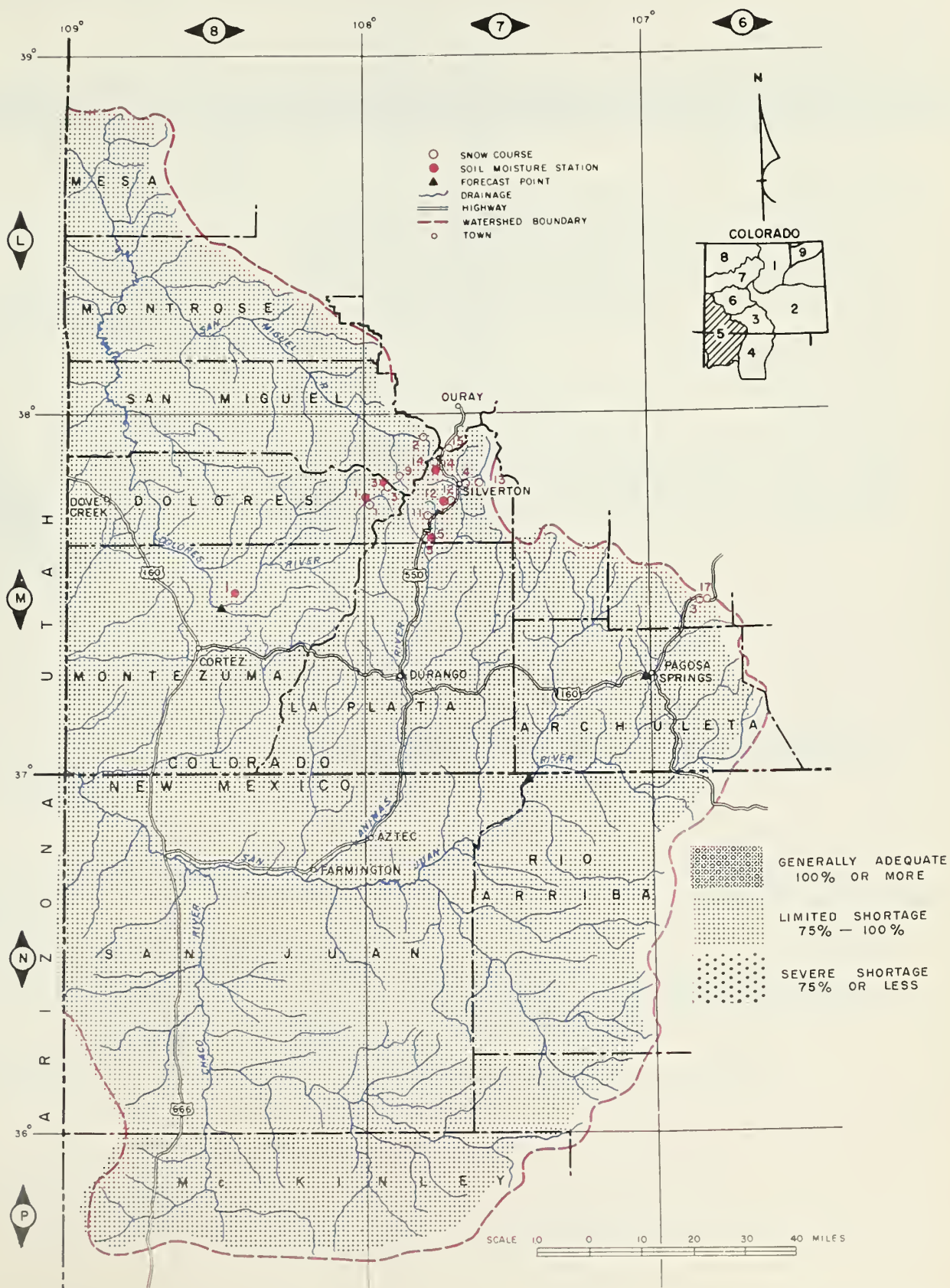
APRIL THROUGH SEPTEMBER

| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
|-----------------------------|------------------------|---------------------|-----------------|
| No Forecasts until March 1. | | | |

ALL PROFILES 4 FEET DEEP

* OBSERVED FLOW PLUS CHANGES IN STORAGE IN VALLECITO RESERVOIR

SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN WATERSHEDS IN COLORADO AND NEW MEXICO



SNOW

| SNOW COURSE | NO. | CURRENT INFORMATION | | | PAST RECORD | |
|-----------------------|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| | | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| SAN JUAN RIVER | | | | | | |
| Chama Divide (B) | 6N2 | 1-30 | 6 | 1.0 | 3.3 | 3.9 |
| Chamita (B) | 6N3 | 1-30 | 24 | 5.3 | 7.5 | 7.3 |
| Upper San Juan | 6M3 | 1-28 | 54 | 14.0 | 21.7 | 21.8 |
| Wolf Creek Pass (B) | 6M1 | 1-28 | 47 | 12.0 | 21.0 | 19.5 |
| Wolf Creek Summit | 6M17 | 1-28 | 46 | 12.2 | 22.0 | 17.6* |
| ANIMAS RIVER | | | | | | |
| Cascade | 7M5 | 1-29 | 34 | 5.5 | 8.5 | 9.1 |
| Howardville | 7M13 | 1-29 | 24 | 2.4 | 10.0 | 8.5* |
| Ironton Park | 7M6 | 1-28 | 17 | 4.3 | 9.5 | 7.4 |
| Mineral Creek | 7M14 | 1-29 | 29 | 3.8 | 12.8 | 7.4* |
| Molas Lake | 7M12 | 1-30 | 29 | 4.9 | 11.5 | 10.3* |
| Red Mountain Pass | 6M19 | 1-29 | 46 | 9.3 | 24.5 | 14.9* |
| Silverton Sub-Station | 7M4 | 1-29 | 12 | 1.1 | 7.4 | 4.3 |
| Spud Mountain | 7M11 | 1-29 | 47 | 9.0 | 17.7 | 16.8* |
| DOLORES RIVER | | | | | | |
| Lizard Head | 7M3 | 1-29 | 24 | 5.6 | 5.4 | 9.9* |
| Rico | 7M1 | 1-29 | 15 | 3.1 | 4.5 | 6.2 |
| Telluride | 7M2 | 1-28 | 18 | 3.3 | 3.9 | 5.1 |
| Trout Lake | 7M9 | 1-28 | 21 | 3.8 | 4.6 | 10.0* |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY

(A) - AIR OBSERVED

(B) - ON ADJACENT DRAINAGE

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Ft. Collins, Colorado

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DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

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GUNNISON RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1963

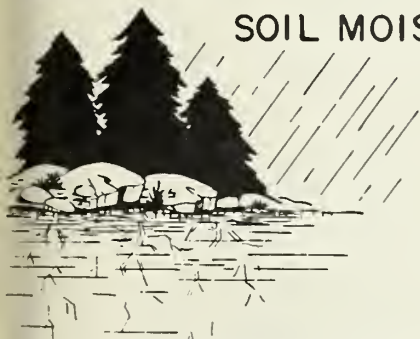
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW COVER RANGES FROM 56% OF THE 15 YEAR NORMAL ON THE UNCOMPAHGRE RIVER TO 64% ON THE GUNNISON. THE NEXT FEW MONTHS WILL HAVE TO PRODUCE MUCH ABOVE NORMAL SNOWFALL TO INSURE AN ADEQUATE WATER SUPPLY THIS SPRING.

SOIL MOISTURE



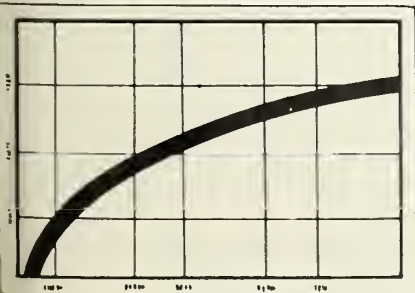
MOUNTAIN SOILS ARE SLIGHTLY DRIER THAN NORMAL AND MUCH DRIER THAN LAST YEAR AT THIS TIME. THIS CONDITION WILL REDUCE EXPECTED FLOWS FROM MELTING SNOW.

RESERVOIR STORAGE



STORAGE IN TAYLOR RESERVOIR IS 74,400 ACRE FEET COMPARED TO A NORMAL OF 61.0 ACRE FEET.

EXPECTED STREAMFLOW



** THREE QUARTERS OF AN INCH OF RAIN FELL DURING THE MONTH ON THE UPPER WATERSHED. THIS IS ALMOST AN UNHEARD OF INCIDENT.

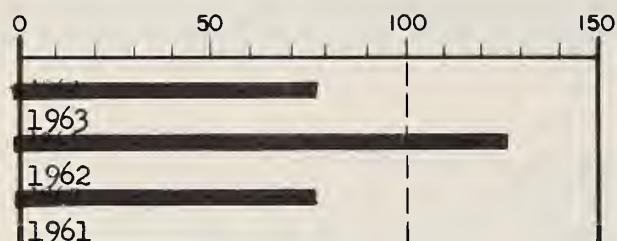
NO NUMERICAL FORECASTS TILL MARCH 1.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

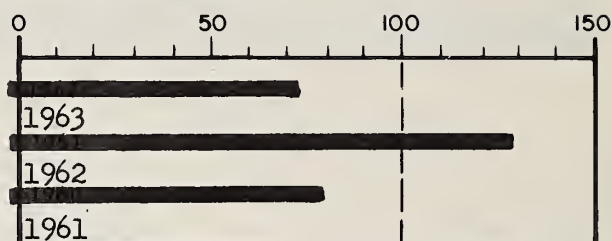
ISSUED BY: SOIL CONSERVATION SERVICE

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

GUNNISON



UNCOMPAHGRE



RESERVOIR STORAGE (1,000 AC. FT.)

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|-----------|-----------------|-----------|-----------|---------------------------|
| Taylor | 106.2 | 74.4 | 75.0 | 61.0 |

MEASURED FIRST OF MONTH

PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER | | WINTER | |
|----------|-------------------------|------|--------|-----------|
| | AVE. | DEP. | AVE. | Dec. DEP. |
| Gunnison | 3.01 | 1.49 | .80 | .00 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|---------------|-------------------|-----------|-----------|-------------------------|
| King | 3.3 | 1.6 | 2.3 | 1.8 |
| Maroon | 5.9 | 2.7 | 5.1 | 3.2 |
| Mineral Creek | 5.7 | 3.1 | 4.0 | 3.6 |
| Placita | 9.3 | 4.5 | 7.2 | 5.1 |

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
|-----------------------------------|------------------------|---------------------|-----------------|
| No Forecast issued until March 1. | | | |

GUNNISON RIVER WATERSHED IN COLORADO



SNOW

| SNOW | | CURRENT INFORMATION | | | PAST RECORD | |
|--------------------------|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| SNOW COURSE | NO. | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| GUNNISON RIVER | | | | | | |
| Alexander Lake (A) | 7K3 | 1-31 | 38 | 8.4 | 19.2 | 13.4 |
| Black Mesa | 7L5 | NS | | | -- | -- |
| Blue Mesa | 7L2 | NS | | | -- | -- |
| Cochetopa Pass | 6L6 | 1-29 | 13 | 1.8 | 4.0 | 3.5* |
| Crested Butte | 6L1 | 1-28 | 21 | 3.3 | 9.3 | 9.4 |
| Keystone | 7L3 | 1-28 | 24 | 5.1 | 21.3 | -- |
| Lake City | 7M3 | NS | | | -- | -- |
| Long Gulch | 7L4 | NS | | | -- | -- |
| Mesa Lakes (B) | 7K4 | 1-26 | 25 | 5.4 | 11.7 | 10.2 |
| Monarch Pass (B) | 6L4 | 1-29 | 36 | 7.7 | 15.2 | 10.8 |
| McClure Pass (A) | 7K8 | 1-31 | 40 | 9.4 | 22.1 | 11.4* |
| Mineral Creek (B) | 7M14 | 1-29 | 29 | 3.8 | 12.8 | 7.4* |
| North Lost Trail (A) (B) | 7K1 | 1-31 | 38 | 7.6 | 15.9 | 9.2 |
| Park Cone | 6L2 | 1-28 | 20 | 3.2 | 8.9 | 7.0 |
| Park Reservoir (A) | 7K6 | 1-31 | 42 | 10.3 | 20.8 | 15.6 |
| Porphyry Creek | 6L3 | 1-29 | 32 | 7.6 | 15.6 | 10.0 |
| Trickle Divide (B) (A) | 7K5 | 1-31 | 47 | 11.6 | 22.0 | 17.0 |
| Tomichi | 6L7 | 1-29 | 27 | 6.0 | 10.5 | -- |
| UNCOMPAHGRE RIVER | | | | | | |
| Ironton Park | 7M6 | 1-28 | 17 | 4.3 | 9.5 | 7.4 |
| Lizard Head | 7M3 | 1-29 | 24 | 5.6 | 11.8 | 9.9* |
| Red Mountain Pass (B) | 7M15 | 1-29 | 46 | 9.3 | 24.5 | 14.9* |
| Telluride | 7M2 | 1-28 | 18 | 3.3 | 4.5 | 5.1 |
| Trout Lake | 7M9 | 1-28 | 21 | 3.8 | 9.0 | 10.0* |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY

(A) - AIR OBSERVED

(B) - ON ADJACENT DRAINAGE

This Report Prepared by

Jack N. Washichek and Don W. McAndrew

Soil Conservation Service

Colorado State University

Ft. Collins, Colorado

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DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey

Colorado State University

Ft. Collins, Colorado

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
COLORADO RIVER WATERSHED IN COLORADO
as of
FEBRUARY 1, 1963

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW COVER ON THE MAIN STEM OF THE COLORADO IS ONLY ABOUT ONE HALF OF WHAT IT SHOULD BE. MUCH ABOVE NORMAL SNOW MUST FALL IN THIS AREA DURING THE NEXT THREE MONTHS TO EVEN PRODUCE NORMAL RUN-OFF.

SOIL MOISTURE



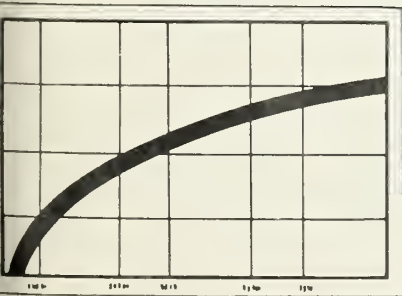
DEFICIENT SOIL MOISTURE ALSO ADDS GLOOM TO THE PICTURE. ALL MOISTURE STATIONS INDICATE LESS MOISTURE THAN NORMAL EXCEPT IN THE VAIL PASS AREA. LAST YEAR ALL STATIONS WERE FAR ABOVE NORMAL.

RESERVOIR STORAGE



CARRYOVER STORAGE IN GRANBY RESERVOIR IS EXCELLENT. CURRENT STORAGE IS APPROACHING CAPACITY OF 465,500 ACRE FEET. IT NOW CONTAINS 410,900 ACRE FEET. GREEN MOUNTAIN RESERVOIR CONTAINS 8,700 ACRE FEET, MUCH BELOW IT'S NORMAL OF 76,700 ACRE FEET. GRANBY RESERVOIR IS PART OF THE BIG THOMPSON PROJECT.

EXPECTED STREAMFLOW



NO NUMERICAL FORECASTS ARE MADE TILL MARCH 1. PROBABLY MOST FORECASTS WOULD BE CONSIDERABLY BELOW NORMAL, BUT NOT AS LOW AS CURRENT SNOW PACK. AVERAGE SNOW FOR THE REMAINDER OF THE SEASON WOULD PUT FORECASTS AROUND 80% OF THE 15 YEAR NORMAL.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

E. A. Nicholson, Area Conservationist
Grand Junction, Colorado
J. L. Hall, Area Conservationist,
Glenwood Springs, Colorado

SNOW

| SNOW COURSE | | NO. | CURRENT INFORMATION | | PAST RECORD | |
|--------------------------|------|------|---------------------|---------------------|------------------------|------------------------|
| | | | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) |
| | | | | | | LAST YEAR |
| | | | | | | AVERAGE 1943 - 57 |
| COLORADO RIVER (UPPER) | | | | | | |
| Arrow | 5K6 | 1-30 | 30 | 5.7 | 9.6 | 6.5 |
| Berthoud Pass | 5K3 | 1-30 | 29 | 5.7 | 12.9 | 8.8 |
| Berthoud Summit | 5K14 | 1-31 | 34 | 8.0 | 13.5 | 12.0* |
| Blue River | 6K21 | 1-30 | 20 | 3.3 | 7.5 | -- |
| Cooper Hill | 6K23 | 1-27 | 22 | 4.3 | 8.9 | -- |
| Fiddlers Gulch | 6K5 | Est. | 28 | 5.7 | 16.0 | 10.0 |
| Fremont Pass | 6K8 | 1-29 | 31 | 6.0 | 15.0 | 10.3 |
| Frisco | 6K13 | 1-29 | 13 | 2.3 | 7.1 | 5.7* |
| Glen Mar Ranch | 6K20 | 1-29 | 20 | 3.7 | 7.5 | 5.8* |
| Gore Pass | 6J11 | 1-28 | 18 | 3.2 | 10.9 | 8.5* |
| Granby | 5J16 | 1-28 | 14 | 2.5 | 5.7 | 4.6* |
| Grand Lake | 5J19 | 1-28 | 17 | 1.4 | 6.2 | 5.6* |
| Grizzly Peak | 5K9 | 1-28 | 29 | 5.7 | 15.0 | 11.3 |
| Hoosier Pass (B) | 6K1 | 1-30 | 28 | 5.0 | 10.8 | 7.2 |
| Jones Pass | 5K21 | 1-30 | 23 | 3.3 | 12.2 | -- |
| Lake Irene | 5J10 | NS | | | ---- | 13.6 |
| Lapland | 5K7 | 1-28 | 22 | 3.1 | ---- | -- |
| Lulu | 5J7 | NS | | | ---- | -- |
| Lynx Pass | 6K6 | 1-28 | 22 | 4.0 | 12.4 | 7.7 |
| McKenzie Gulch | 6K28 | 1-28 | 11 | 1.7 | ---- | -- |
| M. Fork Camp Ground | 5K4 | Est. | 24 | 3.9 | 8.2 | 6.2 |
| Milner | 5J24 | NS | | | ---- | 9.0* |
| Monarch Lake | 5J14 | NS | | | ---- | 7.6* |
| North Inlet Grand Lake | 5J9 | Est. | 17 | 1.6 | 6.5 | 6.1 |
| Pando | 6K19 | 1-29 | 15 | 3.8 | 8.8 | 6.2* |
| Phantom Valley | 5J4 | 1-27 | 15 | 2.6 | 8.9 | 6.6 |
| Ranch Creek | 5K18 | 1-28 | 23 | 4.2 | 6.0 | -- |
| Shrine Pass | 6K9 | 1-29 | 26 | 5.3 | 16.0 | 10.8 |
| Snake River | 5K16 | 1-28 | 16 | 3.3 | 7.0 | 6.1* |
| Summit Ranch | 6K14 | NS | | | 7.9 | 5.3* |
| Tennessee Pass | 6K2 | 2-01 | 34 | 5.0 | 8.5 | 6.9 |
| Vail Pass | 6K15 | 1-29 | 31 | 6.1 | 16.0 | 11.1* |
| Vasquez Creek | 5K19 | 1-30 | 26 | 5.1 | 11.0 | --* |
| Willow Creek Pass | 6J5 | 1-28 | 21 | 4.0 | 11.0 | 7.8 |
| ROARING FORK RIVER | | | | | | |
| Aspen | 7J22 | 1-26 | 24 | 4.1 | 13.7 | -- |
| Independence Pass Tunnel | 6K4 | 1-31 | 28 | 5.8 | 17.1 | 10.6 |
| Ivanhoe | 6K10 | 1-28 | 31 | 3.1 | 17.5 | 10.0* |
| Lift | 7K27 | 1-26 | 21 | 2.9 | 15.6 | -- |
| McClure Pass (A) | 7K8 | 1-31 | 40 | 9.4 | 22.1 | 11.4* |
| Nast | 6K6 | 1-27 | 16 | 1.9 | 4.8 | 4.4* |
| North Lost Trail | 7K1 | 1-31 | 38 | 7.6 | 15.9 | 9.2 |
| PLATEAU CREEK | | | | | | |
| Alexander (A) (B) | 7K3 | 1-31 | 38 | 8.4 | 19.2 | 13.4 |
| Mesa Lakes | 7K4 | 1-26 | 25 | 5.4 | 11.7 | 10.2 |
| Park Reservoir (A) (B) | 7K6 | 1-31 | 42 | 10.3 | 20.8 | 15.6 |
| Trickle Divide (A) | 7K5 | 1-31 | 47 | 11.6 | 22.0 | 17.0 |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY

(A) - AIR OBSERVED

(B) - ON ADJACENT DRAINAGE

This Report Prepared by

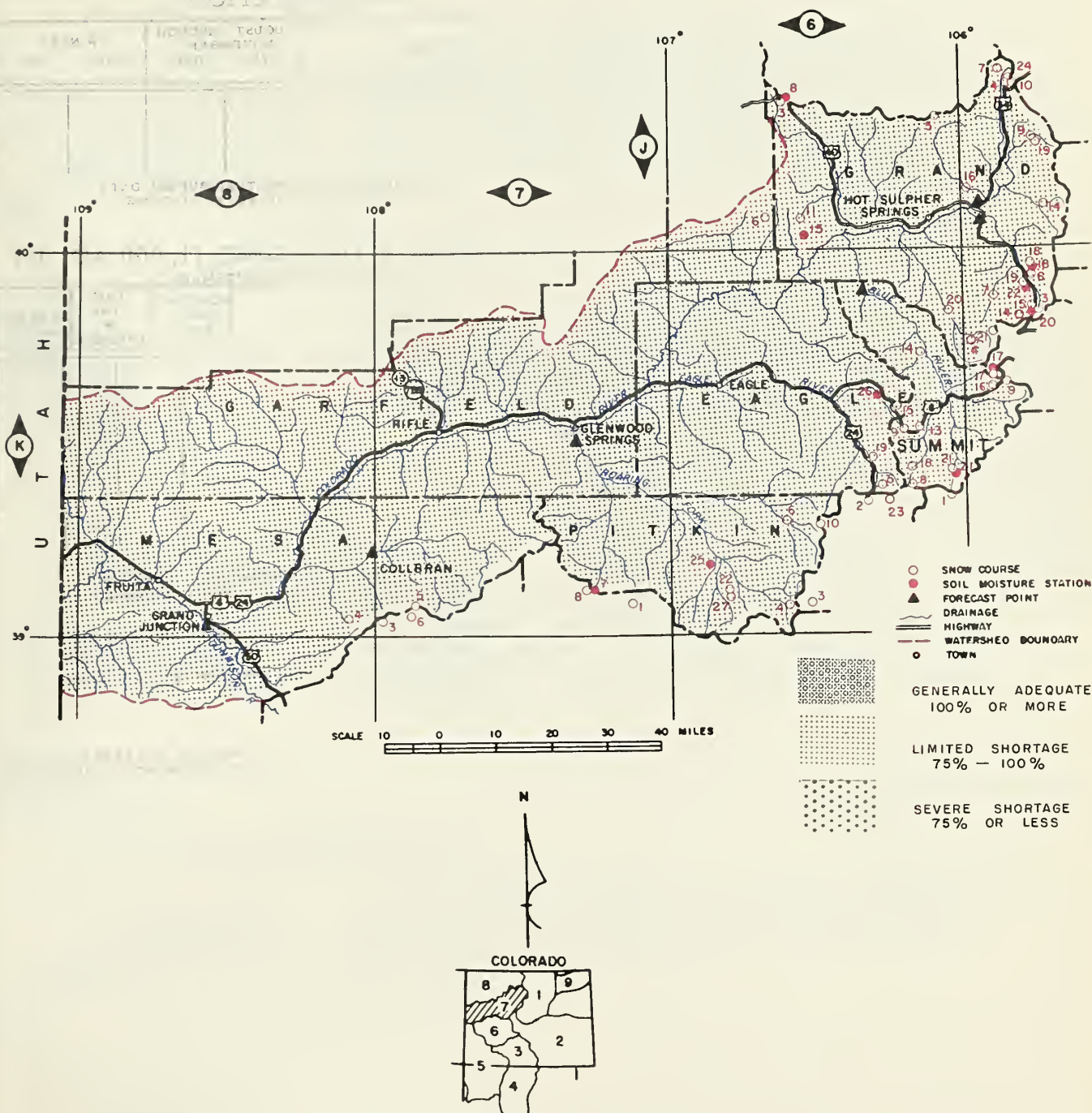
Jack N. Washichek and Don W. McAndrew

Soil Conservation Service

Colorado State University

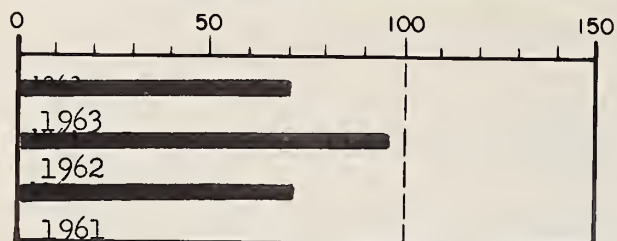
Ft. Collins, Colorado

COLORADO RIVER WATERSHED IN COLORADO

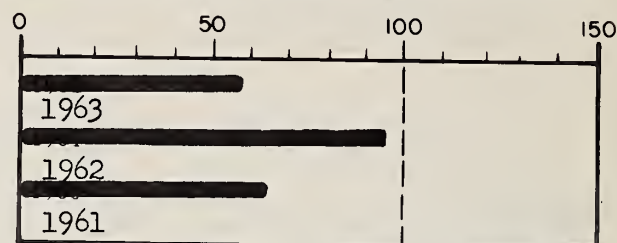


WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

UPPER COLORADO ABOVE GLENWOOD SPRINGS



LOWER COLORADO BELOW GLENWOOD SPRINGS



RESERVOIR STORAGE (1,000 AC. FT.)

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|-----------|-----------------|-----------|-----------|---------------------------|
| Granby* | 465.5 | 410.9 | 370.3 | 212.9 |
| Green Mt. | 146.9 | 8.7 | 105.6 | 76.7 |

MEASURED FIRST OF MONTH

PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER | | WINTER | |
|----------------|-------------------------|-------|-----------|------|
| | Ave. | Dep. | Ave. Dec. | Dep. |
| Upper Colorado | 3.62 | +2.20 | .74 | -.97 |
| Lower Colorado | 3.89 | -.75 | .75 | -.23 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|---------------|-------------------|-----------|-----------|-------------------------|
| Berthoud Pass | 3.9 | 2.3 | 3.1 | 2.6 |
| Blue River | 4.2 | 2.1 | 3.3 | 2.7 |
| Gore | 4.9 | 2.1 | 3.5 | 2.5 |
| Maroon | 5.9 | 2.7 | 5.1 | 3.2 |
| Muddy Pass | 11.1 | 5.6 | 10.5 | 6.4 |
| Placita | 9.3 | 4.5 | 7.2 | 5.1 |
| Ranch Creek | 8.7 | 5.4 | 6.5 | 6.2 |
| Vail Pass | 12.3 | 7.6 | 10.6 | 7.4 |
| Vasquez | 11.0 | 7.0 | | 7.4 |

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
|----------------------------|------------------------|---------------------|-----------------|
| No Forecast until March 1. | | | |

- (4) Observed flow plus diversions by Adams tunnel and Grand River ditch plus change in storage in Granby Reservoir.
- (5) Observed flow plus the changes as indicated in (4) plus Moffat Ditch.
- (6) Observed flow plus diversion through Twin Lakes tunnel.

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DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey
Colorado State University
Ft. Collins, Colorado

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U.S. DEPARTMENT OF AGRICULTURE

WATERSHED VIII

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
**YAMPA, WHITE, AND NORTH PLATTE
RIVERS WATERSHEDS IN COLORADO**

as of
FEBRUARY 1, 1963

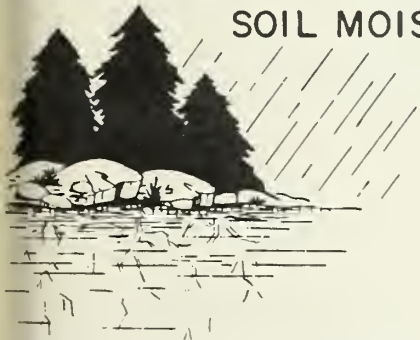
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW FALL MUST BE MUCH ABOVE NORMAL FOR THE REMAINDER OF THE YEAR TO INSURE ADEQUATE WATER SUPPLIES THIS SUMMER. COVER ON THE NORTH PLATTE STANDS AT 53% OF AVERAGE WHILE THE WHITE RIVER HAS EVEN LESS SNOW PACK WITH ONLY 49%. YAMPA WATERSHED CONTAINS THE MOST SNOW WITH 55% OF NORMAL.

SOIL MOISTURE



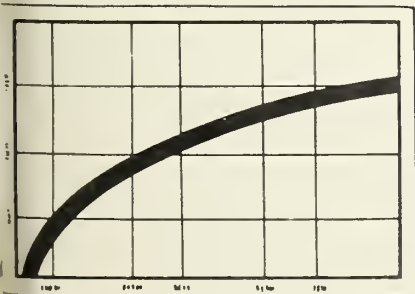
SOIL MOISTURE IN THE MOUNTAINS IS DEFICIENT. THE FALL MEASUREMENTS INDICATE SOILS ARE DRIER THAN USUAL AND FAR DRIER THAN LAST YEAR. SOME OF THE SNOW MELT WILL BE USED TO FILL THE SOIL MANTLE.

RESERVOIR STORAGE



THERE ARE NO MAJOR RESERVOIRS ON THESE BASINS IN COLORADO. THE CURRENT SNOW PACK AND SOIL MOISTURE CONDITIONS DO NOT HOLD MUCH HOPE FOR INCREASING STORAGE IN THE DOWN STREAM RESERVOIRS IN WYOMING AND NEBRASKA.

EXPECTED STREAMFLOW



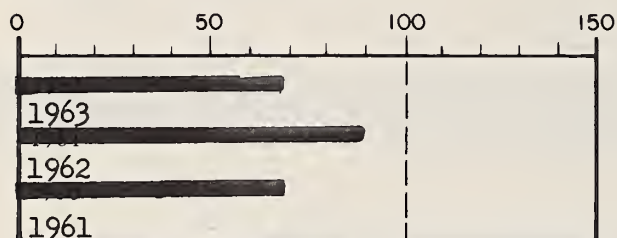
NO NUMERICAL FORECASTS ARE MADE IN FEBRUARY BECAUSE OF THE VARIANCE IN SNOW PACK BETWEEN NOW AND APRIL 1. ONLY ABOUT 50% OF THE SNOW SEASON HAS PASSED.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

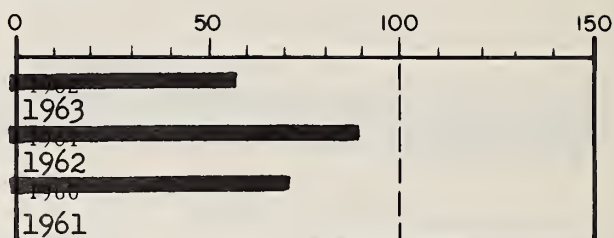
ISSUED BY: SOIL CONSERVATION SERVICE

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

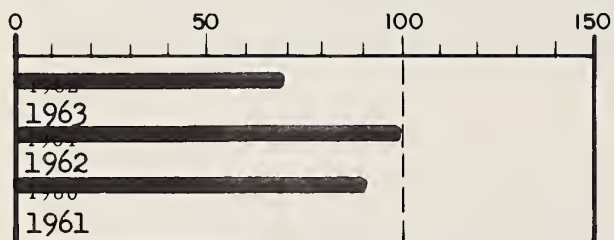
YAMPA



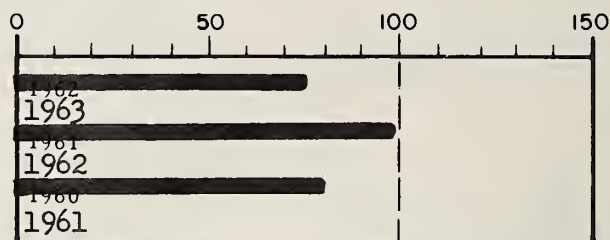
WHITE



LARAMIE



NORTH PLATTE



SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|--------------|-------------------|-----------|-----------|-------------------------|
| Hahn's Peak | 19.0 | 16.7 | 19.0 | |
| Laramie Road | 12.4 | 6.2 | 10.4 | 7.6 |
| Muddy Pass | 11.1 | 5.6 | 10.5 | 6.4 |
| Two Mile | 9.1 | 4.1 | 6.6 | 5.8 |
| Willow Pass | 9.5 | 5.4 | 9.5 | 6.8 |

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

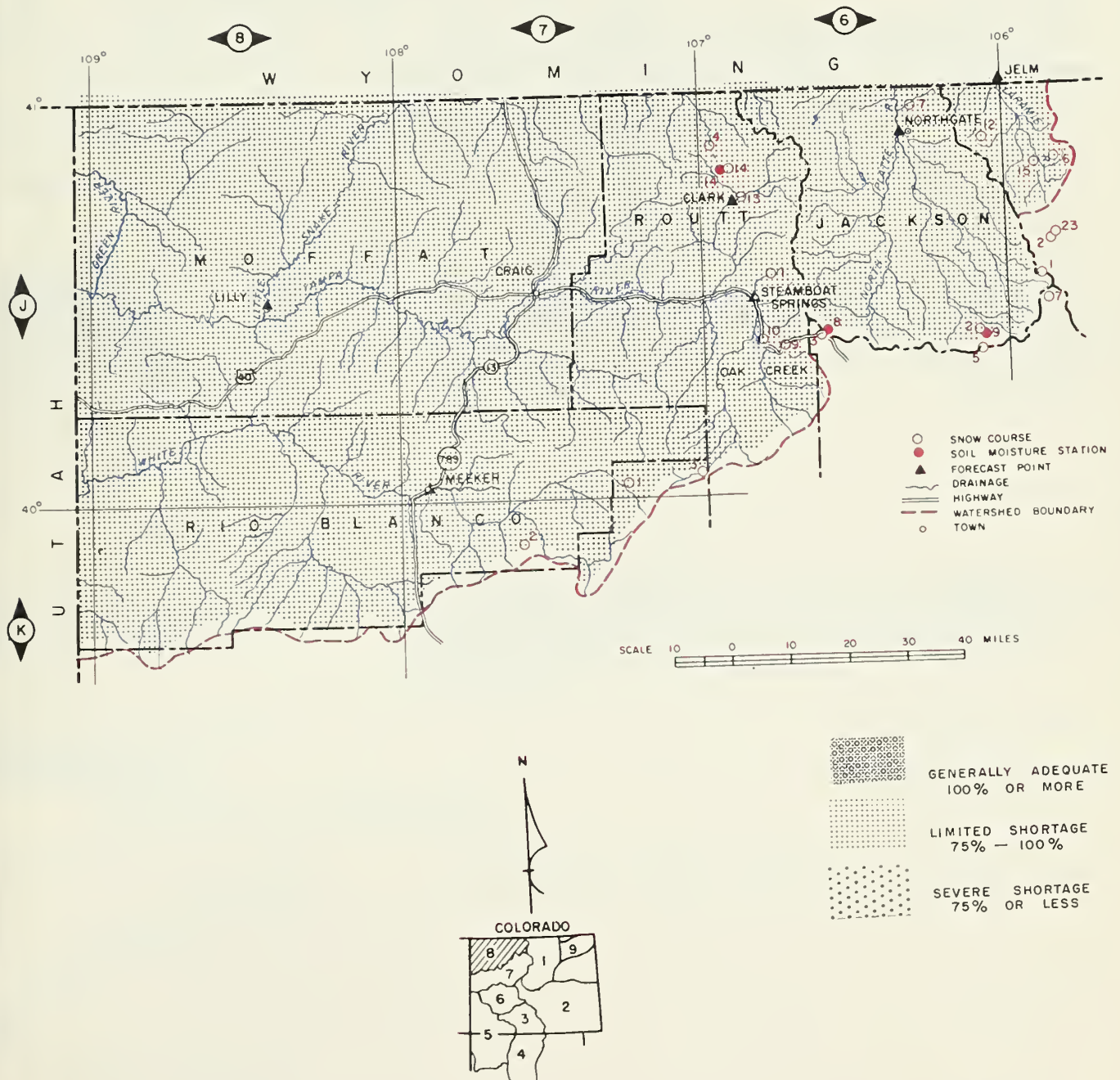
| APRIL THROUGH SEPTEMBER | | | |
|----------------------------|------------------------|---------------------|-----------------|
| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
| No Forecast until March 1. | | | |

PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER | | WINTER | |
|--------------|-------------------------|-------|--------|------|
| | AVE. | DEP. | AVE. | DEP. |
| North Platte | 2.13 | -.81 | .35 | -.02 |
| White | 3.43 | -.46 | 1.12 | -.05 |
| Yampa | 3.74 | -1.58 | 1.13 | -.48 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

YAMPA, WHITE, AND NORTH PLATTE RIVERS WATERSHEDS IN COLORADO



SNOW

| SNOW | | CURRENT INFORMATION | | | PAST RECORD | |
|-----------------------|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| SNOW COURSE | NO. | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| NORTH PLATTE RIVER | | | | | | |
| Cameron Pass (A) | 5J1 | | | | 21.2 | 13.6 |
| Columbine Lodge | 6J3 | 1-28 | 40 | 7.9 | 18.4 | 15.3 |
| Deadman Hill (A) (B) | 5J6 | | | | 16.8 | 8.8 |
| McIntyre (B) | 5J15 | NS | | | -- | -- |
| Northgate | 6J7 | 1-28 | 12 | 2.3 | 6.8 | 3.9* |
| Park View | 6J2 | 1-28 | 19 | 3.3 | 7.2 | 5.9 |
| Roach (A) (B) | 6J12 | | | | -- | 11.2 |
| Willow Creek Pass (B) | 6J5 | 1-28 | 21 | 4.0 | 11.0 | 7.8 |
| YAMPA RIVER | | | | | | |
| Bear River | 7J3 | NS | | | -- | -- |
| Clark (A) | 6J13 | 1-28 | 21 | 4.2 | 10.0 | -- |
| Columbine Lodge (B) | 6J3 | 1-28 | 40 | 7.9 | 18.4 | 15.3 |
| Dry Lake (A) | 6J1 | 1-28 | 29 | 6.7 | 16.7 | 13.2 |
| Elk River (A) | 6J4 | 1-28 | 32 | 7.1 | 15.1 | 10.8 |
| Hahn's Peak | 6J14 | NS | | | -- | -- |
| Lynx Pass (B) | 6J6 | 1-28 | 22 | 4.0 | 12.4 | 7.7 |
| Rabbit Ears | 6J9 | 1-28 | 41 | 8.4 | 19.1 | 17.9* |
| Yampa View | 6J10 | 1-28 | 31 | 6.8 | 12.3 | 8.9* |
| WHITE RIVER | | | | | | |
| Burro Mountain (A) | 7K2 | 1-30 | 27 | 5.9 | 16.2 | 10.3 |
| Rio Blanco | 7J1 | 1-25 | 23 | 4.0 | 11.6 | 9.9 |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Ft. Collins, Colorado

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UNITED STATES
 DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

Snow Survey
 Colorado State University
 Ft. Collins, Colorado

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OFFICIAL BUSINESS

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1963

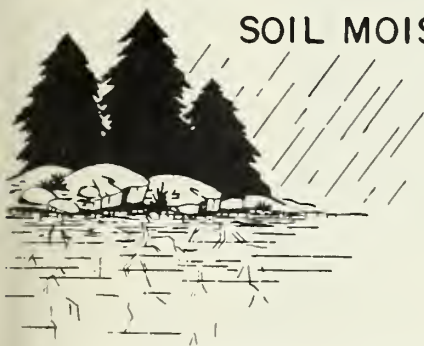
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

SNOW COVER



SNOW FALL ON THE UPPER SOUTH PLATTE HAS BEEN VERY LIGHT, CURRENTLY THE SNOW PACK IS ONLY ABOUT 53% OF THE 1943-57 AVERAGE. MOST OF THIS FELL DURING JANUARY. HIGH TEMPERATURES HAVE MELTED SOME OF THE LOW ELEVATION SNOW.

SOIL MOISTURE



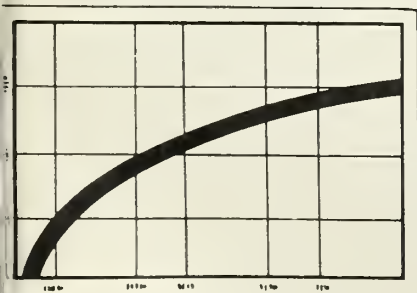
SOIL MOISTURE AT THE HIGH MOUNTAIN ELEVATIONS IS BELOW AVERAGE AND CONSIDERABLY BELOW LAST YEAR. THE VALLEY SOIL IS REPORTED AS FAIR TO GOOD.

RESERVOIR STORAGE



RESERVOIR STORAGE ON THE LOWER SOUTH PLATTE IS RELATIVELY GOOD. CONSIDERING MOST OF THE MAJOR RESERVOIRS, THERE IS ABOUT 25% MORE CARRYOVER STORAGE THAN AVERAGE. THIS WILL HELP IF STREAM FLOW IS DEFICIENT.

EXPECTED STREAMFLOW



NO NUMERICAL FORECASTS UNTIL MARCH 1.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

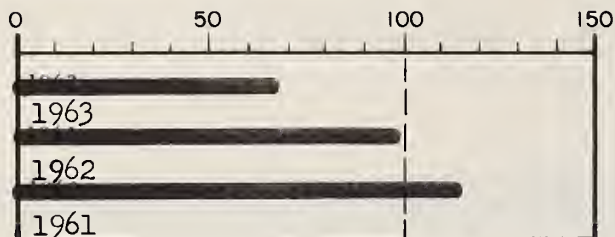
ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

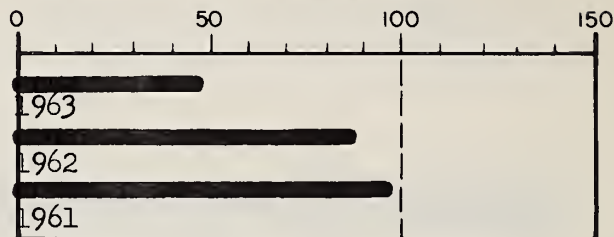
Wallace L. Bruce, Area Conservationist
Sterling, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

UPPER SOUTH PLATTE



LOWER SOUTH PLATTE



RESERVOIR STORAGE (1,000 AC. FT.)

| RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | 15 YEAR AVERAGE 1943 - 57 |
|----------------|-----------------|-----------|-----------|---------------------------|
| Carter | 108.9 | 74.0 | 80.6 | 69.2 |
| Cheeseman | 79.0 | 43.3 | 79.1 | 47.9 |
| Eleven Mile | 81.9 | 96.8 | 97.8 | 69.2 |
| Empire | 37.7 | 27.5 | 21.7 | 21.1 |
| Horsetooth | 143.5 | 91.4 | 121.7 | 65.4 |
| Jackson | 35.4 | 30.0 | 27.1 | 26.8 |
| Prewitt | 32.8 | 16.1 | 17.0 | 17.3 |
| Point of Rocks | 70.0 | 70.0 | 66.4 | 43.3 |
| Riverside | 57.5 | 55.7 | 45.1 | 37.7 |
| Julesburg | 28.2 | 20.1 | 18.4 | 20.5 |

SOIL MOISTURE

| STATION | CAPACITY (INCHES) | THIS YEAR | LAST YEAR | AVERAGE (ALL PAST DATA) |
|---------------|-------------------|-----------|-----------|-------------------------|
| Alpine Camp | 6.9 | 2.9 | 5.0 | 3.5 |
| Beaver Dam | 7.1 | 3.2 | 4.9 | 3.8 |
| Feather | 10.1 | 4.0 | 6.8 | 4.6 |
| Guard Station | 6.9 | 2.7 | 5.0 | 3.4 |
| Hoop Creek | 4.9 | 2.9 | 3.5 | 2.7 |
| Hoosier Pass | 7.8 | 4.0 | 7.8 | 5.1 |
| Kenosha Pass | 4.4 | 1.9 | 3.1 | 2.6 |
| Laramie Road | 12.4 | 6.2 | 10.4 | 7.6 |
| Two Mile | 9.1 | 4.1 | 6.6 | 5.8 |

ALL PROFILES 4 FEET DEEP

MEASURED FIRST OF MONTH

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

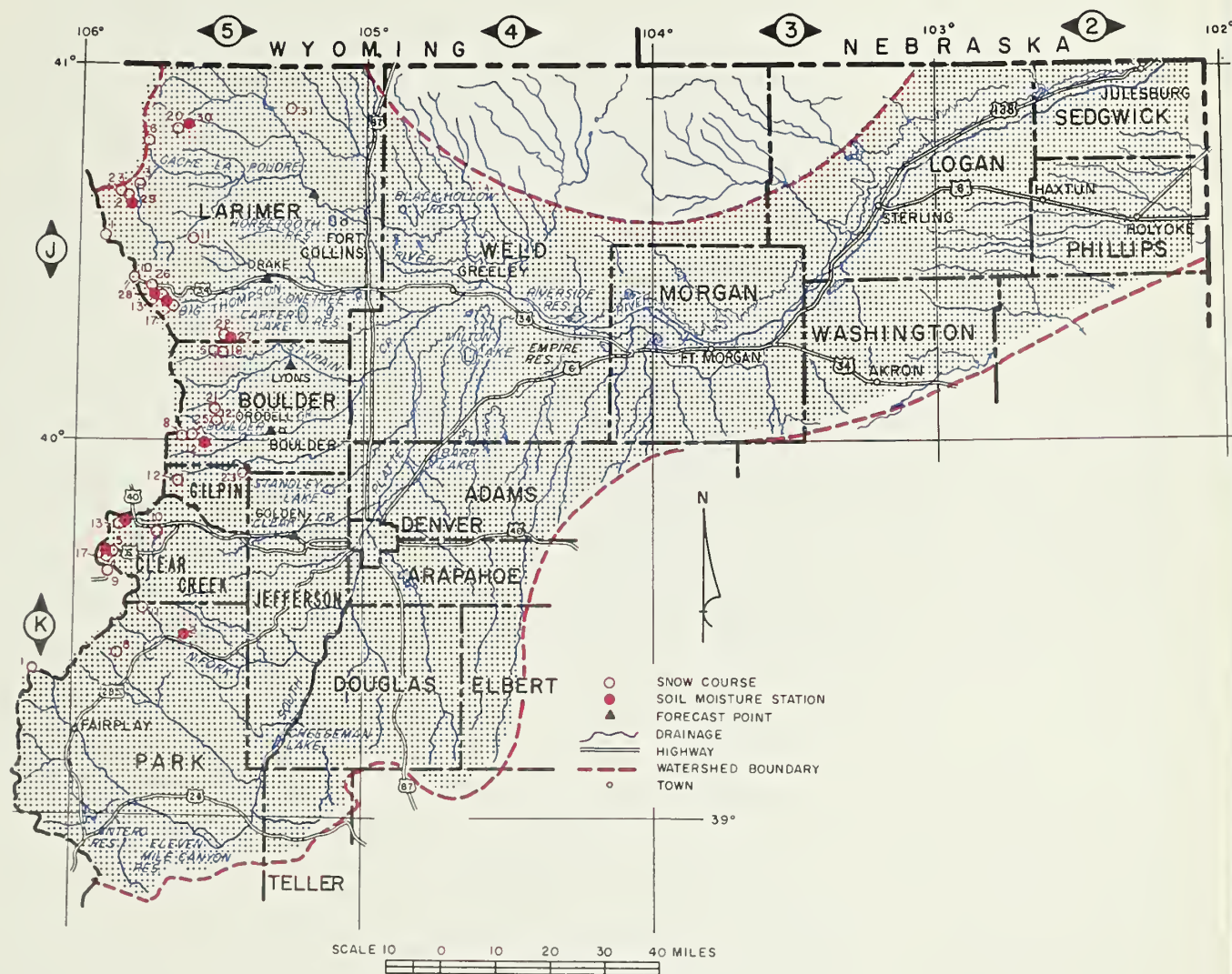
| STREAM AND STATION | FORECAST APRIL - SEPT. | THIS YEAR % AVERAGE | AVERAGE 1943-57 |
|-----------------------------|------------------------|---------------------|-----------------|
| No Forecasts until March 1. | | | |

PRECIPITATION

| STATION | AUGUST THROUGH NOVEMBER AVE. DEP. | WINTER AVE. Dec. DEP. |
|---------------|-----------------------------------|-----------------------|
| Upper So. Pl. | 2.28-2.55 | .31-.22 |
| Lower So. Pl. | 1.70-2.16 | .26-.15 |

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO



GENERALLY ADEQUATE
100% OR MORE

LIMITED SHORTAGE
75% — 100%

SEVERE SHORTAGE
75% OR LESS

SNOW

| SNOW | | CURRENT INFORMATION | | | PAST RECORD | |
|------------------------------------|------|---------------------|---------------------|------------------------|------------------------|-------------------|
| SNOW COURSE | NO. | DATE OF SURVEY | SNOW DEPTH (INCHES) | WATER CONTENT (INCHES) | WATER CONTENT (INCHES) | |
| | | | | | LAST YEAR | AVERAGE 1943 - 57 |
| SOUTH PLATTE RIVER AND TRIBUTARIES | | | | | | |
| Baltimore | 5K23 | 1-31 | 17 | 3.4 | 7.7 | -- |
| Berthoud Falls | 5K13 | 1-31 | 29 | 6.3 | 12.0 | 9.2 |
| Big South | 5J3 | 1-26 | 8 | 0.9 | 2.2 | 1.8 |
| Boulder Falls | 5J25 | 1-30 | 28 | 4.1 | 4.9 | 8.0* |
| Cameron Pass (A) | 5J1 | | | | 21.2 | 13.6 |
| Chambers Lake | 5J2 | 1-26 | 17 | 2.3 | 7.4 | 5.6 |
| Copeland Lake | 5J18 | 1-29 | 7 | 0.9 | 4.0 | 4.0* |
| Deadman Hill (A) | 5J6 | | | | 16.8 | 8.8* |
| Deer Ridge | 5J17 | 1-29 | 13 | 2.6 | 5.9 | 3.7* |
| Empire | 5K10 | 1-29 | 14 | 3.0 | 5.9 | 4.5* |
| Geneva Park | 5K11 | NS | | | -- | 3.9* |
| Grizzly Peak | 5K9 | 1-28 | 29 | 5.7 | 15.0 | 11.3 |
| Hidden Valley | 5J13 | 1-28 | 18 | 3.6 | 10.1 | 7.2 |
| Hoosier Pass | 6K1 | 1-30 | 28 | 5.0 | 10.8 | 7.2 |
| Hour Glass Lake | 5J11 | Est. | 17 | 1.6 | 5.6 | 4.1* |
| Jefferson Creek | 5K8 | NS | | | -- | 5.6 |
| Lake Irene | 5J10 | Est. | 30 | 6.8 | 22.2 | 13.6 |
| Long's Peak | 5J22 | 1-27 | 12 | 2.3 | 7.5 | 7.8* |
| Lost Lake | 5J23 | 1-26 | 21 | 4.2 | 10.2 | 7.4* |
| Loveland Pass | 5K5 | 1-28 | 31 | 5.9 | 13.2 | 9.4 |
| Loveland Lift No. 1 | 5K24 | 1-28 | 38 | 8.1 | 22.3 | -- |
| Pine Creek | 5J31 | 1-29 | 11 | 1.9 | 2.3 | -- |
| Red Feather | 5J20 | 1-29 | 18 | 3.5 | 7.1 | 5.1* |
| Two Mile | 5J26 | 1-28 | 20 | 4.1 | 15.0 | 7.8* |
| University Camp | 5J8 | 1-30 | 36 | 7.3 | 10.5 | 12.7 |
| Ward | 5J21 | 1-30 | 16 | 2.7 | 4.9 | 3.7* |
| Wild Basin | 5J5 | Est. | 21 | 3.7 | 13.6 | 9.0 |

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY

(A) - AIR OBSERVED

(B) - ON ADJACENT DRAINAGE

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LIST OF COOPERATORS

The following organizations cooperate in snow surveys for the Colorado, Platte, Arkansas and Rio Grande watersheds. Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

STATE

Colorado State Engineer
New Mexico State Engineer
Nebraska State Engineer
Colorado Experiment Station
Rocky Mountain Forest and Range Experiment Station

FEDERAL

Department of Agriculture

Forest Service
Soil Conservation Service

Department of Interior

Bureau of Reclamation
Geological Survey
National Park Service
Indian Service

Department of Commerce

Weather Bureau

War Department

Army Engineer Corps

Atomic Energy Commission

INVESTOR OWNED UTILITIES

Colorado Public Service Company
Western Colorado Power Company
Public Service Company of New Mexico

MUNICIPALITIES

City of Denver
City of Boulder

WATER USERS ORGANIZATIONS

Arkansas Valley Ditch Association
Colorado River Water Conservation District

IRRIGATION PROJECTS

Farmers Reservoir and Irrigation Company
San Luis Valley Irrigation District
Santa Maria Reservoir Company
Costilla Land Company
Uncompahgre Valley Water Users' Association
Twin Lakes Reservoir and Canal Company

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necessary for forecasting
water supply for irrigation,
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supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*